Personality, Values, and Cultural Perceptions in the Sojourner Context: A New Perspective on Acculturation in Germany, Japan, and the US

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In Dankbarkeit
für die unendliche Geduld
meiner Frau
meiner Eltern
und meines Doktorvaters
denen ich in den letzten Jahren
sicher mehr graue Haare
als Freude bereitet habe

Personality, Values, and Cultural Perceptions in the Sojourner Context: A New Perspective on Acculturation in Germany, Japan, and the US

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Abstract

The present study examined the relationship between personality, personal values, cultural distance and acculturation in primarily academic sojourners travelling between Germany, Japan, and the US. A Preliminary analysis revealed that ratings for the culture-level personality and values differences between each culture were highly consistent across sojourner groups, but that these ratings showed no relation to alleged cultural differences as calculated from national self-rating means. Subsequent analyses discovered a small subset of personality traits and values typical for sojourners in general, while most pre-sojourn characteristics and their development abroad strongly differed across national groups. A significant trend for participants to seek out host cultures fitting their own personality and values patterns was mirrored by an increase in self-rated similarity to host culture members after the return home. The degree of acculturation (especially host culture orientation) reached throughout the sojourn significantly predicted health and life satisfaction across participant samples, but turned out to be only weakly related to the time spent in the host country. Additional variance in acculturation success was explained by participant personality, personal values, and the associated culture-level difference between host and home countries.

Keywords: *acculturation; Reference Group Effect; national differences; sojourners; personality development; personal values*

Abstract (German)

In der vorliegenden Studie wird anhand von sechs vorwiegend studentischen Stichproben von Teilnehmern zeitlich befristeter Austauschprogramme zwischen Deutschland, Japan, und den USA („Sojourner“) der Zusammenhang zwischen Persönlichkeit, Werten, kultureller Distanz und Akkulturation untersucht. Die einleitenden Analysen zeigen, dass alle Teilnehmergruppen die Persönlichkeits- und Werteunterschiede zwischen den Bewohnern der einzelnen Länder ähnlich einschätzten. Andererseits wiesen diese direkten Einschätzungen keinerlei Übereinstimmung mit angeblichen Kulturunterschieden, wie sie sich indirekt auf Basis aggregierter Selbsteinschätzungen berechnen lassen, auf. Ebenso konnte gezeigt werden, dass zwar einige wenige Persönlichkeitseigenschaften und Werte vermutlich als „typisch“ für Sojourner im allgemeinen zu betrachten sind, im Gegensatz dazu jedoch sowohl die Ausgangswerte, als auch die Entwicklung der meisten Charakteristika während des Auslandsaufenthalts, zwischen Teilnehmern unterschiedlicher Nationalität stark variieren. Ein Vergleich von Persönlichkeits- und Werte-Selbsteinschätzungen mit entsprechenden Unterschieden zwischen Herkunfts- und Zielkultur lässt darauf schließen, dass Sojourner dazu tendieren, gezielt in Länder zu reisen, mit deren Bewohnern sie in bestimmten Merkmalen übereinstimmen, und dass die wahrgenommene Ähnlichkeit zu den Bewohnern der jeweiligen Gastgebernation nach der Rückkehr ins Herkunftsland nochmals zunimmt. Der Grad der erreichten Akkulturation während des Auslandsaufenthaltes (insbesondere jener der Zielkultur-Orientierung) ermöglichte über alle Teilnehmergruppen hinweg eine Vorhersage von Gesundheit und Lebenszufriedenheit, war jedoch nur schwach mit der Aufenthaltsdauer korreliert. Zusätzliche Varianz im Akkulturationsgrad konnte durch Persönlichkeit und Werte der Teilnehmer, sowie durch die Größe der entsprechenden Unterscheide zwischen Herkunfts- und Zielland auf Kulturebene aufgeklärt werden.

Schlüsselbegriffe: *Akkulturation; Referenzgruppeneffekt; Kulturunterschiede; Auslandsaufenthalt; Persönlichkeitsentwicklung; Werte*

The world is changing. Just a century ago, the vast majority of its inhabitants lived and died within a 50-mile radius of their birthplace, each trip to the next town was considered a major event, and first-hand contact with foreigners and their ways of life a privilege of intrepid explorers and pioneers. In the current age of rapid globalization, on the other hand, international mobility and exchange are nothing more than defining features of mainstream culture. According to a survey published by the United Nations, the total number of migrants worldwide has recently breached the 200 million mark (3% of the total human population), with average growth rate estimates around 20% per decade (United Nations Organization [UN], 2008). These global numbers, while sufficiently impressive on their own, hide an even faster growth of migrant quotas in the politically and technologically most advanced nations;[1] and nothing suggests an imminent change to the trend of constant acceleration.

While most of the social sciences were quick to discover the associated potential to expand their research beyond cultural borders, professional psychology for a long time struggled to read the signs of the times.[2] Even today, if a layperson interested in personality research were to ask what we know about the differences between cultural groups, or about the characteristics of people who choose to leave behind friends and family to live abroad, the most faithful answer would probably be "surprisingly little".

Fortunately, psychology also is changing. Recent developments reflect a growing consciousness for the need to look beyond Western laboratory confines in order to truly capture the complexity of human nature (Church & Lonner, 1998a; 1998b), and

[1] According to UN conventions, this definition comprises central Europe, Northern America, Australia, New Zealand and Japan (UN, 2008, p. vii).

[2] Well into the second half of the 20th century, publications concerned with indigenous and cross-cultural research were suspiciously limited, and hampered by an apparent urge to protect time-honored theories developed in the West from contradictory findings elsewhere. Among other things, his led to a decade-long skirmish between proponents of cultural relativism (e.g. Fiske, Kitayama, Markus, & Nisbett, 1998; Shore, 1996; Shweder, 1991; Triandis, 1989) and those stressing the universal applicability of certain constructs (e.g. McCrae, Costa, Del Pilar, Rolland, & Parker, 1998). Meanwhile, the re-emergence of contextualism as an intermediary approach has managed to reconcile both positions. Most contemporary cross-cultural psychologists agree that basic psychological mechanisms and principles apply to all human beings regardless of ethnicity or cultural heritage, but that their exact manifestations may vary across cultures because of the influence of different environmental factors (Ratner, 2004). For example, while the ability to experience basic emotions such as anger, surprise, and joy is considered a human universal, the concrete circumstances leading to their emergence, the likelihood of their overt expression, and the way they are expressed all depend on cultural factors (Araki & Wiseman, 1996).

more than ever before, researchers from all over the world are converging to shape and improve, but also to actively challenge fundamental assumptions of their science. Still, intercultural studies continue to be a daunting challenge; and while the primary focus of this thesis is on the acculturation experiences and personality development of young adults abroad, some of the more prominent methodological issues will inevitably have to be addressed throughout its course. In the meantime, a much simpler question remains to be answered: Why is it necessary to take into consideration the phenomenon culture in psychological research?

Culture as a Cognitive Framework

Ironically, awareness for the prominent influence of culture on human thought and behavior was stronger during the first days of professional psychology than for many decades thereafter (Jahoda & Krewer, 1996). Wilhelm Wundt, often considered one of the founding figures of our science, maintained the remarkably modern position that "a full understanding of many phenomena in differential psychology requires the viewpoint of cultural psychology" (Wundt, 1920, Vol. 1, pp. 2); and almost a century later this claim has lost nothing of its appeal (Segall, Lonner, & Berry, 1998).

The contemporary explanation for how culture shapes the human mind is that it provides a relatively stable cognitive framework (or bias) for the interpretation and evaluation of stimuli, which is acquired during socialization (Berry, Trimble, & Olmedo, 1986; Heise, 1986; Markus & Kitayama, 1994; 1998; Mead, 2005; Ramirez-Esparza, Gosling, Benet-Martinez, Potter, & Pennebaker, 2006; Tadmor, 2006; Triandis, 1996). One important implication of this viewpoint is that cultural factors *may* account for inter-individual (or inter-group) variance that is *not* indicative of genuine differences in latent trait or ability levels, but merely a result of divergent customs and heuristics used for stimulus processing and response selection. Likewise, identical overt behavior *may* indicate very different dispositions depending on the cultural scripts the agent adheres to.

Far from being a minor issue, effects attributed to differences in cultural customs have been observed in research areas as diverse as *visual perception* (e.g., Ishii, Tsukasaki, & Kitayama, 2009), *social cognition* (e.g., Hong, Morris, Chiu, & Benet-Martinez, 2000), *emotions* (e.g., Wierzbicka, 1994), *self-construals* (e.g.,

Markus & Kitayama, 1994; 1998), *value structures* (e.g., Fontaine, Poortinga, Delbeke, & Schwartz, 2008; Peng, Nisbett, & Wong, 1997), and *personality* (e.g. De Raad et al., 2010). While only a small and ultimately arbitrary selection, these studies already illustrate that the power of cultural factors is not limited to the social domain, but strongly influences even very basic cognitive routines. In the context of growing international mobility, this observation underscores the importance of another interesting question: What happens when an individual born and socialized in one culture ventures to live in another?

Acculturation

There is little doubt that the decision to live abroad entails a number of serious challenges, especially when host and home cultures are very different. Familiar rules of conduct suddenly cease to apply, and the way people think and reason tends to defy familiar logic, necessitating both resilience and quick learning. The associated process of personal adjustment to the new cultural environment is commonly referred to as acculturation, and serves as the main topic for an impressive wealth of psychological, medical, sociological, and even economic publications.

Most of these studies can be roughly classified into one of three categories: (a) those focusing on predictors for successful acculturation, (b) those examining associated outcomes, and (c) research concerned with theories about the acculturation process itself. In order to provide a conceptual background for one of the central topics of this dissertation, the following sections will first highlight some of the most relevant acculturation theories, and then continue with a very brief review of empirical studies on its antecedents and consequences.

Acculturation Theories

During a time when the measurement of acculturation was still in its infancy, Ward and colleagues (Searle & Ward, 1990; Stone Feinstein, & Ward, 1990; Ward & Kennedy, 1993, 1999; Ward & Searle, 1991) were among the first who conceptualized it as a multidimensional process encompassing both sociocultural (functional) and psychological (emotional) components. The former refers to the ability to “fit in” and

function within the host culture environment, and can best be described as the result of an incremental and unidirectional social skill learning process (Argyle, 1980; Furnham & Bochner, 1986). The latter reflects personal feelings of well-being and satisfaction, which do not (necessarily) follow predetermined trajectories of constant improvement, but may vary due to shifts in environmental conditions or personal experiences. A pattern frequently observed during the first months abroad is that the degree of psychological adaption follows a U-shaped curve, with initial euphoria gradually fading into disillusion and relative dissatisfaction, only to recover close to the one year mark (U-Curve Hypothesis; Church, 1982; Cemalcilar & Falbo, 2008; Black & Mendenhall, 1991; Markovizky & Samid, 2008; Zapf, 1991; see Figure 1).

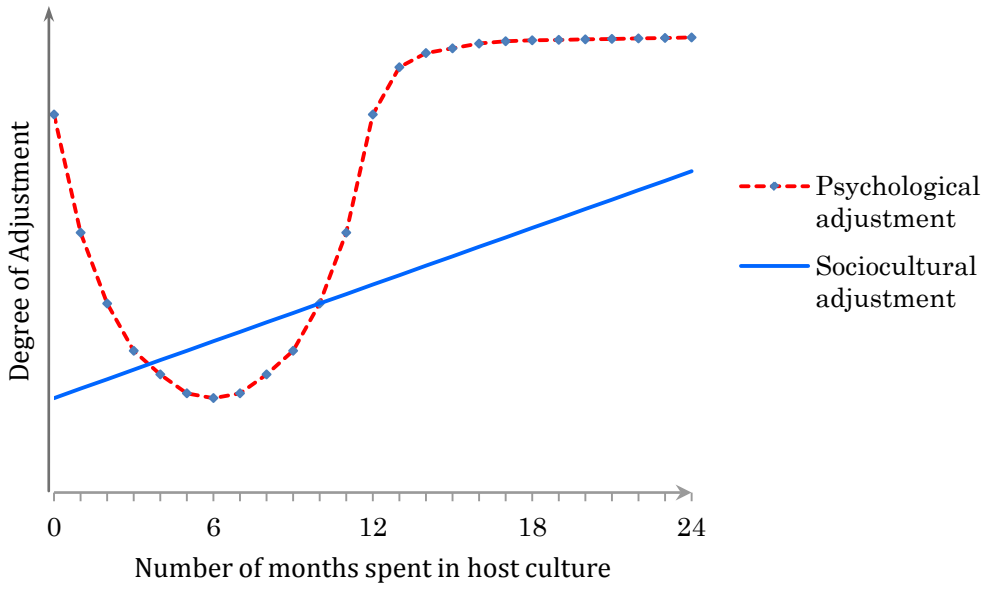

Figure 1. Schematic representation of the relationship between psychological / sociocultural adjustment and sojourn time. Adapted from Black & Mendenhall (1991, p. 227).

Another important conceptual innovation, spearheaded by Berry and colleagues (Berry, Kim, Power, Young, & Bujaki, 1989; Berry & Sam, 1996; Berry et al, 1986), was the declaration of host and origin culture orientation as two separate constructs. Challenging the long-standing notion that acculturation necessarily entails a tradeoff between opposing cultural identities (Gordon, 1964; Triandis, Kashima, Shimada, &

Villareal, 1988), their model assumed independence in the sense that the amount of personal identification with the one culture has virtually no implications for the ability to adapt to the other (see Figure 2). Critics of this radical position continue to point out the technical impossibility to adhere to two contradictory cultural scripts in situations of conflict, and that the alleged independence may actually be the result of a measurement artifact (Kang, 2006; Laroche, Kim, Hui, & Tomiuk, 1998; Soeldner, 2008). [3] Despite the ongoing discussion, an integrative approach towards acculturation (high host *and* origin culture identification) has empirically been linked to higher levels of well-being, sociocultural functioning and satisfaction, followed by assimilation, separation, and finally marginalization as successively less preferable options (Liebkind, 2001; Sam & Berry, 2006; but also see Cemalcilar & Falbo, 2008; Rudmin & Ahmadzadeh, 2001 for conflicting results).

		Origin culture orientation: high	Origin culture orientation: low
Host culture orientation	high	*integrated*	*assimilated*
	low	*separated*	*marginalized*

Figure 2. The four styles of acculturation. Adapted from Berry & Sam (1996, p. 306).

Building on Berry's model (and providing a possible solution for Kang's critique), proponents of the so-called Cultural Frame Switching Theory (CFS, Hong, Chiu, & Kung, 1997; Ramirez-Esparza et al., 2006) claim that people with extensive experience in more than one culture (biculturals) manage to integrate potentially conflicting cultural identities by subconsciously alternating between different mindsets according to the presence and salience of cultural cues in their current environment. For example, a Japanese expatriate in the US would automatically switch to a more American mindset while working with local colleagues, but revert to a more

[3] Kang (2006) argues that the independence of both dimensions only inconsistently manifests in Likert scaled attitude self-ratings, and immediately disappears when the frequency of actual engagement in host and origin culture practices is measured.

traditional Japanese pattern when visiting his homeland. Despite its unorthodoxy from a classical trait psychology standpoint, effects supporting the existence of the CFS phenomenon have been reported for a wide array of dependent variables, including personal values and beliefs (Bond & Yang, 1982; Marin, Triandis, Betancourt, & Kashima, 1983; Ralston, Cunniff, & Gustafson, 1995), causal attributions (Hong et al., 1997; Benet-Martinez, Leu, Lee, & Morris, 2002) and, most importantly, also the Big Five personality traits (Hull, 1996; Ramirez-Esparza et al., 2006).

Prediction of Acculturation Success

Due to the high personal and financial costs commonly associated with failed adjustment and premature returns,[4] both psychological and business-related researchers were quick to identify the search for concrete predictors for acculturation success as a priority task. While several studies underscore the importance of situational factors (e.g., *availability of social support*; Furukawa, 1997; Finch & Vega, 2003; *the magnitude of host/origin culture differences*; Babiker, Cox, & Miller, 1980; Furnham & Bochner, 1982; Parker & McEvoy, 1993; Searle & Ward, 1990; Suanet & Van De Vijver, 2009; Ward & Kennedy, 1993; and *host culture attitudes toward migrants*; Berry, 2003; Georgas, Berry, Shaw, et al., 1996; Roccas, Horenczyk, & Schwartz, 2000), the majority of associated research centers on characteristics of the migrant (e.g. *personality*; Tomich, McWhirter, & Darcy, 2003; Tsang, 2001; Ward, Leong & Low, 2004; Zhang; Mandl, & Wang, 2010; *personal coping style*; Furukawa & Shibayama, 1994; Schmitz & Berry, 2011; Crockett, Iturbide, Torres Stone, et al., 2007; *self-efficacy* and *locus of control*; Ward, Chang, & Lopez-Nerney, 1999; Ward & Kennedy, 1992; *cultural intelligence*; Ang & Van Dyne, 2005; Earley & Ang, 2003; *acculturation attitudes*; Berry, Kim, Power, Young, & Bujaki, 1989; Berry & Sam, 1996; Berry et al, 1986; Li & Gasser, 2005; and certain *personal values*; Güngör, 2007; Roccas, Horenczyk, & Schwartz, 2000).

While all the variables mentioned above certainly contribute to the explanation of

[4] While the diversity of factors involved in each case makes truly reliable overall estimates difficult, net monetary costs of "failed" (prematurely discontinued) overseas business assignments are known to approach six-figure dollar numbers per individual case (Mendenhall & Oddou, 1985). This purely financial perspective obviously ignores the potential psychological damage inflicted by the experience of personal failure abroad.

variance in acculturation trajectories, the primary focus of this dissertation is on the link between acculturation, the Big Five personality traits (e.g. McCrae & John, 1992), and the personal values defined in Schwartz's Circumplex Model of Basic Human Values (e.g. Schwartz, 1992) . The following sections provide a concise review of related research.

Prediction by personality. Among the personality traits described in the Big Five model, extraversion has most often been related to higher levels of psychological adaption, most likely due to its facilitator role for the establishment and maintenance of host culture contacts (Caligiuri, 2000; Furukawa, 1997; Huang, Chi, & Lawler, 2005; Parker & McEvoy, 1993; Searle & Ward, 1990; Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006; Ward et al., 2004; Zhang et al., 2010). Positive effects for agreeableness are often explained in a similar fashion: with initial misunderstandings between hosts and migrants almost inevitable, agreeable migrants may benefit from their ability to negotiate between differences, and thus stabilize and foster their cross-cultural relationships (Caligiuri, 2000; Graziano, Jensen-Campbell, & Hair, 1996; Huang et al., 2005; Shaffer et al., 2006; Ward et al, 2004; Zhang et al., 2010). Conversely, the positive association between conscientiousness and the cultural learning facet of acculturation (Caligiuri, 2000; Shaffer et al., 2006; Ward et al, 2004; Zhang et al., 2010) is generally assumed to be a result of greater perseverance and a systematic approach to overcoming specific difficulties. Neuroticism is the only Big Five trait with a consistent negative correlation to psychological adjustment, a fact mostly attributed to its association with depression and vulnerability (Cheung & Leung, 1998; Furukawa & Shibayama, 1994 Armes & Ward, 1989 Ward, Leong, & Low, 2004; Zhang et al., 2010). Finally, openness has often been suggested as the most salient personality trait for migrant adaptation (Abe & Wiseman, 1983; Arthur & Bennett, 1995) due to its association with curiosity and a tolerance for change (Costa&McCrae, 1992). It is interesting to note, though, that the expected positive relations emerged only in a minority of empirical studies (e.g., Huang et al., 2005; Zhang et al., 2010), and failed to do so in others despite very similar experimental conditions (e.g., Van den Broucke, de Soete, & Bohrer, 1989; Ward et al., 2004).

It is also necessary to mention that the overview presented here merely reflects majority trends, but that results tend to vary considerably according to the specific host/origin culture combination or acculturation facet (e.g., sociocultural or

psychological; see above) under observation. Part of the issue may be that the Big Five are simply too broad a construct for the reliable prediction of specific acculturation outcomes (Van Oudenhoven & Van der Zee, 2002). Another concern with far-reaching implications is that the association between a migrant's personality traits and acculturation success may at least partially depend on specifics of the host culture environment (Ward et al., 2004). For example, while high extraversion has generally been found to facilitate acculturation in Western countries (Searle & Ward, 1990), it often failed to do so (Ward & Chang, 1997; Van den Broucke, de Soete, & Bohrer, 1989), or even interfered with acculturation in countries where high levels of extraversion strongly deviate from the norm (Armes & Ward, 1989). While this last finding clearly is in line with research linking acculturation difficulties to the magnitude of host/origin culture differences (see above), it seriously complicates universal predictions about the influence of migrant personality traits on adaption outcomes.[5]

Prediction by personal values. Value differences on the country level have previously been identified as one of the most important features distinguishing cultures (Schwartz, 2004). Nonetheless, empirical studies on a possible link between acculturation success and the personal values a migrant endorses are decidedly limited (Taras, Rowney & Steel, 2012; Bardi & Goodwin, 2011). While this diagnosis also applies to the Circumplex Model of Basic Human Values (Schwartz, 1992), the latter remains one of very few comprehensive value models with at least sufficient general validation in the cross-cultural context (Schwartz & Bardi, 2001; Schwartz, Melech, Lehmann, et al., 2001), and thus appeared as the most logical vantage point for my own research.

The model proposes ten basic value orientations, which represent broad, trans-situational motivational goals acquired during socialization. As "cognitive structures that function as central aspects of the self . . . with an overarching effect on perceptions, goals, attitudes, and behaviors" (Bardi et al., 2011, p. 274), these ten values are assumed to concurrently affect a person's perceptions, preferences, choices,

[5] The logic behind this reasoning may require further explanation: If a) greater differences between the personality profile of the acculturating individual and associated host-culture norms are detrimental for personal acculturation and b) all members of a culture share systematic personality trait variance, a logical conclusion is that increasing difference between host and origin culture mean personality trait levels will, on the average, be associated with a more difficult acculturation process.

and actions according to their relative strength (Knafo, Roccas, & Sagiv, 2011). Another important assumption is that the compatibility between two values varies according to their proximity in the circumplex; that is, individuals are very unlikely to simultaneously endorse values that occupy opposing sectors of the circle, and vice versa (see Figure 3).

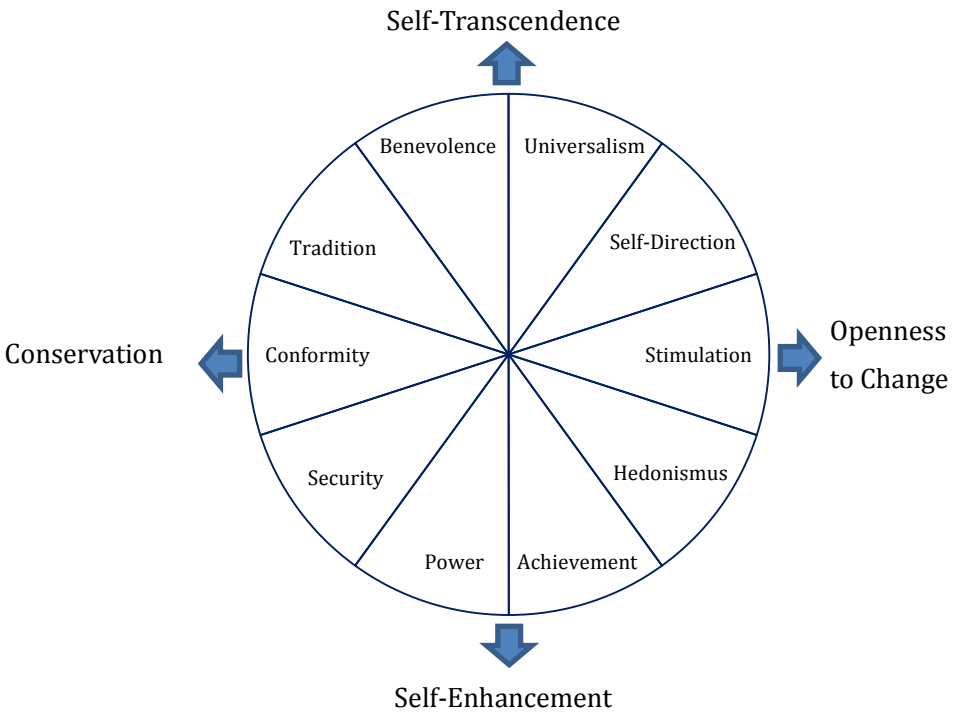

Figure 3. The values circumplex. Adapted from Fontaine et al. (1996, p. 306).

One of the few related empirical findings in the context of cross-cultural contact is that universalism and self-direction seem to facilitate interaction with strangers, while traditionalism, conformity and a strong security orientation appear as less beneficial (Sagiv & Schwartz, 1995). Direct research on the link between acculturation and the values circumplex is decidedly limited, but also indicates that individuals high in self-direction tend to be more willing to adopt host culture customs, while their traditional and conformity-oriented counterparts are at risk of facing a more serious challenge abroad (Güngör, 2007; Phalet & Swyngedouw, 2004; Roccas, Horenczyk, & Schwartz, 2000).

As with the Big Five personality traits before, however, the critical factor for a smooth transition to the host culture environment may less be the absolute value

endorsement levels of a migrant, but rather the gap between these values and the values commonly endorsed by host culture members; and as before, this reasoning allows for the prediction that acculturation difficulties should increase in line with the difference between the mean value endorsement patterns of host and origin country populations.

Acculturation Outcomes

The clear majority of research on the outcomes of acculturation has focused on its links to migrant health (Bongard, Pogge, Arslaner, Rohrmann, & Hodapp, 2002; Lara, Gamboba, Kahramanian, Morales, & Hayes Bautista, 2005; Lee, Sobal, & Frongillo, 2000), well-being, and life satisfaction (Abu-Rayya, 2006; Mahmud & Schölmerich, 2011; Schwartz, Waterman, Umana-Taylor, et al., 2012). Beyond that, acculturation success has also been associated with academic and professional performance (Berry, Kim, Power, Young, & Bujaki, 1989; Tadmor, Galinsky, & Maddux, 2012), changes in origin and host culture perception (Marin & Gamba, 2003), integrative complexity and creativity (Tadmor et al., 2012), social misconduct and crime rates (Smokowski, David-Ferdon, & Stroupe, 2009), and also changes in value endorsement and personality traits (McCrae, Yik, Trapnell, et al., 1998; Sun, 2011; Taras, 2012).

In order to provide a brief summary of studies with direct relevance for this paper, the following sections will first examine evidence for associations between acculturation success, health, well-being, and life satisfaction, then continue with an overview of major findings on changes in migrant personality and value endorsement levels following a cultural transition.

Development of health, well-being, and life satisfaction. Especially the first weeks in a foreign country present a formidable challenge to the resilience of migrants. With the number of adaption tasks still at its maximum, the availability of coping resources, such as social support by local friends or family back home, tends to be at an all-time low. It is not surprising that this constellation sometimes results in a “culture shock” evidenced by disorientation, dissatisfaction, and decreased health (Church, 1982; Cemalcilar & Falbo, 2008; Oberg, 1960; Sam & Eide, 1991; Ward, Bochner, & Furnham, 2001), which quickly replaces any initial euphoria (Pedersen, 1995). A continuous stream of research throughout the decades has provided ample evidence for the

existence of the culture shock phenomenon; however, similar, and sometimes even more pronounced symptoms (Andrews, Page, & Neilson, 1993) have also been observed during the readjustment phase following the end of a temporary stay abroad ("reverse culture shock"; Furukawa, 1997; Rogers & Ward, 1993; Tamura & Furnham, 1993). This indicates that it may not only be the novelty of the new environment alone, but also the necessity to suddenly "switch cultural gears" which poses a major threat to health and well-being.[6]

Still, an overly narrow focus on the critical stages immediately after a cultural transition threatens to overlook the fact that acculturation describes a much longer, gradual, and multidimensional process, where the ultimate result depends on a complex interplay of personal and situational factors. This complexity tends to make the prediction of specific outcomes difficult; at the end of her meta-analysis of health issues among Hispanic immigrants in the US, Lara and colleagues (Lara et al., 2005) ultimately feel compelled to note that:

> The effect of acculturation on … health is complex and not well understood. Although we can identify certain major positive or negative trends in the subject areas reviewed, the effects are not always in the same direction, and many times the effects are mixed. Thus, depending on the subject area, the measure of acculturation used, and factors such as age, gender, or other measured or unmeasured constructs, acculturation may have a negative, positive, or no effect. (p. 374)

This verdict is corroborated by Lee (Lee et al., 2000), who also finds no clear-cut differences between the relative levels of health and well-being of highly acculturated Koreans and their moderately traditional peers.

A possible explanation for these inconclusive results is provided by research based on Berry's two-dimensional model of acculturation (e.g., Abu-Rayya, 2005; Schwartz et al., 2012). Since both ethnic and host-culture orientations independently predicted

[6] Interestingly, this is in line with research indicating that the relative effortless and subconscious ability to switch between culture-specific mindsets described by the *Cultural Framework Switching Theory* (see above) represents an advanced stage of a prolonged and conflict-ridden learning process, and thus may be limited to truly "integrated" biculturals (Benet-Martinez, Leu, Lee, & Morris, 2002).

better psychological outcomes in associated studies, it is likely that the crucial factor is not necessarily the degree of acculturation to the host culture, but rather the overall degree of cultural embeddedness experienced by a migrant, regardless of which community provides the necessary environment. The likelihood of this interpretation is further increased by mediation analyses, which on the one hand confirm the independent links of host culture and ethnic identification with life satisfaction, but also point out that these effects are mediated by the respective levels of social connectedness within each community (Yoon, Lee, & Goh, 2008). For members of tiny ethnic minorities, the only sufficiently large cultural community available for this immersion arguably is the majority culture, leading to the frequently observed advantage of acculturation. Conversely, individuals belonging to relatively large and strong minority groups may also significantly profit from the feeling of belongingness and social support that an ethnic community provides.

Personality changes. While a number of empirical studies examined the predictive power of personality variables for acculturation, the possibility of a causal relation in the opposite direction has received considerably less attention. This is somewhat surprising, since migration undoubtedly fulfills the criteria of a "critical life event" (Holmes & Rahe, 1967) or "major life experience" (Roberts & Jackson, 2008), both of which have been associated with changes to behavioral dispositions, values, and personality traits before.

One of the few longitudinal studies in this context indeed confirmed that cross-cultural experiences can, under certain circumstances, have a significant influence on personality development. In their examination of acculturating German exchange students abroad, Back and colleagues (Back, Nestler, Quickenstedt, & Egloff, 2012) witnessed an overall increase in self-rated extraversion, agreeableness, conscientiousness, and lower neuroticism with increasing time abroad, above and beyond similar tendencies observed in a sedentary comparison sample. The authors interpret this finding as an instance of accelerated personality maturation (Roberts & Mroczek, 2008; Specht, Egloff, & Schmukle, 2011) due to the need to rely on individual resources in absence of parental support.

This view certainly underscores the impact a sojourn abroad can have on the development of young adults; still, one has to keep in mind that concrete acculturation tasks may differ across host countries, and thus may lead to different outcomes. For

example, adjustment to life in a collectivist society may require an increase in behavior commonly associated with agreeableness, while individualist cultures may expect migrants to embrace a more open-minded and independent stance on life than what they were used to at home. Assumed that stable behavioral patterns are a core element of personality traits (e.g., McCrae et al., 1992, p. 205), this raises the question to what degree gradual changes in behavior during acculturation are indicative of true, "deep level", changes to a migrant's core personality structure, or mere surface-level adaptations to transient situational demands (see McCrae & Costa, 1996); and whether such a strict distinction is actually justified. In this regard, it is interesting to witness that even long-standing critics of differential[7] personality changes in adulthood (see Costa & McCrae, 1994) have come to consider the possibility that life in a foreign culture "may affect thoughts, feelings, and actions so profoundly as to alter personality traits" (McCrae, Yik, Trapnell, et al., 1998, p. 1050). Tentative evidence for this standpoint comes from studies on the personality development of Hong Kong Chinese students in the US, who gradually increased in self-reported extraversion, agreeableness, conscientiousness, and openness relative to their origin country peers, while their neuroticism levels significantly decreased (McCrae et al., 1998). Since these changes were exactly in line with alleged culture-level differences between both countries (Allik & McCrae, 2004; Schmitt, Allik, McCrae, & Benet-Martinez, 2007), the authors concluded that their Chinese subjects actually experienced an acculturation-induced personality shift towards the American standard. In light of the striking similarity between the effects reported by McCrae and those observed by Back in a completely different cultural context (see above), this interpretation may seem premature; the general lack of systematic research in the area, however, precludes a final verdict on the relative validity of both theories to this day.[8]

Changes in value endorsement. From a theoretical perspective, several arguments speak for the likelihood of systematic value changes following a cultural transition.

[7] Changes that do not only reflect common, age-dependent mean level trends, but actual rank order inversions.

[8] On a side note, these observations make it likely that an alternative approach to the interpretation of Ward's study (Ward et al. 2004) on the cultural fit hypothesis of acculturation (Ward & Chang, 1997) is warranted. While not explicitly mentioned by the authors, it is interesting to note that both Australians in Singapore and Singaporeans in Australia tended to differ from their sedentary origin country peers in the same direction as sedentary host culture members, once again highlighting the possibility of systematic personality shifts during acculturation.

Provided the personal values an individual endorses indeed are the result of socialization in a cultural environment (Schwartz & Bardi, 2001), and if cultures do systematically differ in the relative importance they place on each value (Schwartz, 2004; Schwartz et al., 2012), it is reasonable to assume that acculturation to a host culture environment will affect the value hierarchy a migrant adheres to.

Bardi (Bardi et al., 2011) suggests two mechanisms for how these value changes may occur. First, repeated observation of the behavioral and interpretative patterns exhibited by host culture members could ultimately lead to a reinforcement of mental associations that are typical for that culture, and thus indirectly influence the likelihood that a similar type of motivational orientation (or value) prevails under similar conditions. The second postulated mechanism is based on an effortful and conscious examination of the relative benefit of the endorsement of certain values in the current cultural context. For example, upon migration to rural Canada, a war refugee might come to the conclusion that an extremely high security orientation benefited survival at home, but constitutes an unnecessarily obstacle to the establishment of new social contacts in the host culture, in turn triggering a cost/benefit driven re-evaluation of value priorities. Regardless of their differences, both mechanisms are assumed to lead to systematic value changes during acculturation in line with the reinforcement contingencies and norms of the host culture (Bardi, Lee, Hofmann-Towfigh, & Soutar, 2009; Schwartz & Bardi, 1997).

It is noteworthy that up to now, the above theory seems to lack systematic validation in a longitudinal study (Taras et al., 2012). Related cross-sectional research, however, reveals robust correlations between the similarity of a migrant's values to the host culture norm and the time spent in direct contact with host culture members (Georgas et al., 1996; Kwak & Berry, 2001; Nguyen & Williams, 1989) or personal identification with the host culture (Wan, Chiu, Peng, & Tam, 2007),[9] although the speed at which associated changes occur remains disputed (Taras et al., 2012). In sum, despite a scarcity of longitudinal research, both theoretical considerations and the results of cross-sectional studies provide tentative support for the notion that acculturation should include a gradual adoption of host culture norms and values.

[9] It may be important to note that the mere time spent abroad in a host country alone (ignoring the intensity and quality of host culture involvement) does not necessarily predict a shift of privately held values, even in cases where a modification of overt behavior is observed (Costigan, & Dokis, 2006).

Sojourners

Within the larger migrant population, so-called "sojourners" form an important subgroup. Although the term originally referred to foreign visitors in general, it is nowadays applied mostly to temporary residents in a host country whose primary intent is to spend a limited amount of time (generally between a couple of months and a few years) abroad for academic, work-related or personal reasons. As such, the definition encompasses a wide range of individuals, including business people, diplomats, exchange students, and foreign contract workers, in contrast to permanent migrants and refugees. While the general trend towards greater international mobility applies to sojourners especially well,[10] the number of those who travel to geographically and culturally very distant countries remains comparatively small.[11] Presumably, the prospect of living on the other side of the globe for several months necessitates a degree of determination, financial backing, and resolve above and beyond what is required for the more common sojourn to a neighboring country, where a spontaneous home leave during an extended weekend is not completely out of the question.

The inherently limited nature of a sojourner's stay abroad provides researchers with the unique opportunity to cover the whole length of a cross-cultural experience (including the preparatory and post-return stages), so it is not surprising to witness that they constitute one of the most prominent subject groups in acculturation studies. More surprising is the fact that systematic research on the characteristics that distinguish typical "sojourner personalities" from their sedentary peers is limited. The following sections will first review evidence for the prevalence of specific personality and values patterns among sojourners in general, then examine the possibility of systematic differences between specific sojourner groups.

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[10] Due to varying national standards for migrant classification, the UN dataset mentioned before does not provide for a clear conclusion about the development of worldwide sojourner numbers. Related sources, however, indicate that at least for participants in academic exchange, annual growth rates surpass the migrant average up to five-fold (Isserstedt & Schnitzer, 2005).

[11] In Germany, about two thirds of student sojourners opt for host countries in manageable proximity to their homes, especially in Western Europe; only about 12% travel to North America, and only 5% to East Asia (Heublein, Schreiber, & Hutzsch, 2011).

Sojourner Personalities and Personal Values: General Trends

In his study on Chinese immigrants in the US (see above), McCrae points out that "the most confident, capable, and adventurous individuals may have been most willing to take up the challenge of life in a new culture" (McCrae et al., 1998, p. 1046), tentatively linking sojourner status to high conscientiousness, extraversion, openness and low neuroticism. What little empirical evidence is available in this context seems to support his assumptions. Although the picture is not entirely coherent, sojourners indeed sometimes appear as higher in extraversion (Back et al., 2012; Zimmermann, 2012), agreeableness (Back et al., 2012), conscientiousness (Back et al., 2012; Zimmermann, 2012), and openness (Back et al., 2012; Zimmermann, 2012), and as lower in neuroticism (Back et al., 2012; Zimmermann, 2012) than their sedentary peers.

Theoretical considerations also make it likely that some of the personal values represented in Schwartz's circumplex model facilitate the decision to venture abroad: self-direction through its facets "exploration" and "independence"; universalism through its facets "broad-mindedness" and "tolerance"; and finally stimulation through its facets "excitement", "novelty", and "challenge". Conversely, a strong preference for security ("safety", "stability", and "interest in social order") and tradition ("commitment to origin country culture") arguably conflict with the prospect of life as a traveler oscillating between worldviews and social systems.[12] Since sufficient empirical confirmation of these assumptions is still missing, it is difficult to assess their veracity. Related research on the social interactions between ethnic groups, however, tentatively confirms that individuals high in self-direction and universalism, and low in security-orientation, traditionalism and conformity are indeed more interested in establishing social contacts with those outside their own cultural community, and thus may be more willing to sojourn abroad (Sagiv & Schwartz, 1995).

Concerning the Possibility of a "Fit" Between Sojourner and Host Culture Characteristics

The general trends predicted above are complemented by the observation that

[12] For an exact description of each value facet, see Schwartz (1992) or Schwartz & Bardi (2001).

many sojourners do not choose their host countries at random, but at least in part because of a perceived "fit" with their own interests, behavioral dispositions, values, and preferences.[13] Arguably, the human tendency to approach and associate with others whose personality and values are perceived as similar to one's own (Byrne, 1971; Byrne, London, & Reeves, 1968; Jamieson, Lydon, & Zanna, 1987; Botwin, Buss, & Shackleford, 1997; Tajfel, 1981) and to avoid those who strongly differ (Singh & Ho, 2000) also applies to the context of intercultural mobility. Moreover, it can be assumed that most would-be sojourners are at least vaguely aware that overly extreme differences between their own dispositions and host culture norms would severely impede their acculturation process, and actively choose to avoid such constellations.

Both mechanisms predict a systematic relation between a sojourner's personal deviation from the mean personality trait and value endorsement levels of his origin culture peers, and the associated differences between host and origin country: in search for an environment that maximally "fits" their personal priorities and needs, sojourners should tend to seek out host countries whose inhabitants they perceive to share similar values and behavioral dispositions.

To my best knowledge, the notion of such proactive self-selection to specific host countries has never been empirically explored to this day. The unique constellation of participant groups in the study presented in this dissertation allowed me to address this knowledge gap, and to obtain a clear picture of both characteristics shared by sojourners in general, as well as host-culture dependent characteristics that separate different sojourner groups from each other.

Cross-Cultural Measurement of Latent Traits: Methodological Issues

Cross-cultural research has always been hampered by a multitude of technical and methodological challenges,[14] and the study presented in this thesis is no exception. In order to provide a justification for my choice of instruments and design, the following sections will first highlight some general difficulties, and continue with special issues

[13] In a series of short questions on the reasons for their sojourn, participants in the study presented in this dissertation clearly indicated "interest in the host country's people and culture" as a much more important motivator than "academic or work-related causes", even though the vast majority was enlisted in some sort of academic exchange program.

[14] For a concise overview, see van de Vijver & Tanzer, 2004.

encountered with acculturating sojourner subjects.

Culture as a Normative Standard: The Reference Group Effect

It has already been mentioned that culture acts as a cognitive framework for interpretation and evaluation. By logical extension, this also means that it provides baseline standards for "average" behavior and trait levels. The far-reaching implications of this fact were illustrated in a famous article by Heine, Lehman, Peng, and Greenholtz (2002) a decade ago. In search for an explanation for why many large-scale studies failed to confirm predicted international patterns of collectivism (e.g. Matsumoto, 1999; Takano & Osaka, 1999), the authors pointed out a common weakness in contemporary cross-cultural research: the use of Likert-type subjective self-rating scales. According to Heine, and in line with the much older Social Comparison Theory (e.g. Festinger, 1954; Biernat & Manis, 1994), the absence of objective criteria in these scales encourages participants to engage in self-comparison with peers in their extended social environment. To the extent that cultural groups differ in their average levels of the dimension under observation, this will result in a comparison with different standards in each case. For example, moderately collectivist inhabitants of highly collectivist countries will come to estimate their own collectivism levels lower than equally collectivist inhabitants of individualist countries, simply because the local standard they use for self-evaluation is higher. Consequently, even pronounced variations in latent dimension levels *between* cultures may fail to manifest due to different standards for self-comparison *within*.[15]

Heine and colleagues termed this phenomenon the Reference Group Effect, and managed to provide convincing evidence for their interpretation in a series of experiments with expatriate subjects. In one exemplary study, they explicitly instructed Canadian and Japanese participants who had lived several months abroad

[15] It is important to note that these effects are conceptually unrelated to methodological artifacts introduced by mistranslations, which can be controlled for by translation-backtranslation procedures (Brislin, 1986; Werner & Campbell, 1970), tests for differential item functioning (DIF) effects (Zumbo, 2007), as well as an examination of factorial invariance and the nomological network of items across language versions (see Van de Vijver & Leung, 1997a; 1997b for an overview of common control procedures). Moreover, in cases where observer and subject share the same cultural background, reference group effects will contaminate observer-rated trait levels as well.

in the respective other country to rate their own degree of collectivism in direct comparison to "average Canadians" and "average Japanese" in turn (Heine et al., 2002). As expected, the difference observed between Japanese and Canadian subjects was negligible when both were asked to compare to their national peers (e.g. Japanese subjects with average Japanese). Conversely, the predicted contrast between both participant groups clearly emerged once subjects were asked to compare themselves to average inhabitants of their host culture (e.g. Canadian subjects with average Japanese). Figure 4 below illustrates this observation for Canadian and Japanese subjects who both differ from the cultural norm of their respective home country populations in the same way.

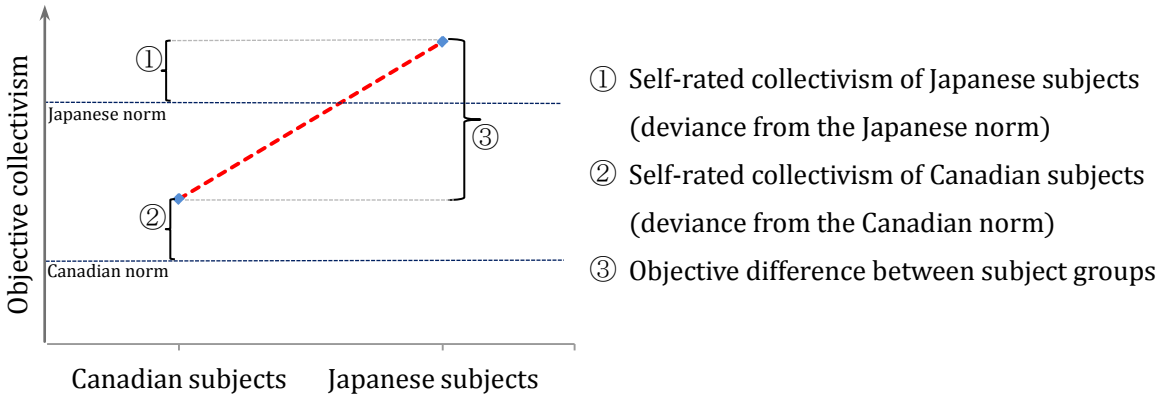

Figure 4. Illustration of the Reference Group Effect observed by Heine et al. (2002).

While subsequent research (e.g., Heine, Buchtel, & Norenzayan, 2008) provided further empirical evidence for the validity of their theory, the exact conditions for the emergence of associated effects and factors that influence their magnitude are still not fully understood.

An ostensible solution to validity problems associated with Reference Group Effects is based on the classic act-frequency approach (Buss & Craik, 1983): instead of asking subjects to rate their underlying dispositions on an abstract scale, the frequency of objective behavior associated with these dispositions is assessed (e.g., Lynn & Hampson, 1975; Lester, 2000). In theory, the associated reduction in subjectivity should lead to more valid and directly comparable measurements in the cross-cultural context. Still, the practicability of this alternative remains contended. As Moser (1989) points out, one of the traditional weaknesses of the classic act-frequency approach is

that it assumes a direct and invariant correspondence between behavior and dispositions, with the latter considered "nothing more than summaries of behavioral acts" (p. 75). In the international context, however, this invariance assumption does clearly not apply, because the deeper meaning of the same overt behavior (and thus, its prototypicality as an indicator for latent trait levels) may strongly vary across cultures (Angleitner, Buss, & Demtröder, 1990; Guthrie, 1986; Tanaka-Matsumi & Draguns, 1997; Triandis & Brislin, 1984). In consequence, the original problem of subjectivity in Likert scale self-ratings is merely replaced by an equally problematic issue: the absence of established and cross-culturally invariant latent trait indicators.

The current lack of standard control mechanisms to account for possible Reference Group Effects most likely explains why they continue to be cited as possible explanations for counter-intuitive results of country-level trait comparisons (e.g., Allik & McCrae, 2004; Schmitt et al., 2007; Terracciano et al., 2005), but otherwise largely ignored. For my own research, I decided to adopt an alternative approach which circumvented most of the validity issues presented above. First, all calculations involving person-level comparisons were exclusively based on the relative deviation of subjects from the mean trait levels of their respective national group instead of raw scale scores, and thus corrected for different standards. Second, the magnitude of culture-level differences between two countries (that is, the difference between latent dimension national means) was *directly estimated* by subjects who had several months of first-hand experience with both cultures, rather than calculated from aggregated self-ratings.[16]

Concerning the Possibility of Acculturation-Induced Reference Group Shifts

A peculiar problem encountered in studies on acculturating individuals is that the reference group a participant uses for self-evaluation is not necessarily fixed. Generally, it is assumed that "the tendency to compare oneself with some other specific person decreases as the difference between his opinion or ability and one's own increases" (Festinger, 1954, p. 120); in other words, an increase in acculturation should lead to an increasing tendency for social comparison with *host culture*

[16] This approach is not without precedent. Empirical evidence suggests that direct expert ratings are actually more valid indicators for cultural differences than difference estimates based on national self-rating means (Heine et al., 2008).

members. Combined with the Reference Group Effect, this basic principle could lead to a critical problem in the sojourner context: As participants begin to include host country inhabitants into their reference group, the norms and standards they use for self-evaluation will gradually change. Consequently, any measurements based on subjective Likert scale self-ratings will inevitably confound possible effects of acculturation-induced latent trait changes with effects of gradually shifting reference group preferences. For example, a moderately agreeable sojourner in Japan might come to appreciate the benefits of (surface-level) harmony and thus increasingly avoid open conflict with people in his social environment. However, the self-perception of this behavioral acculturation could easily be foiled by the increasing realization that what he originally considered indicative of moderate agreeableness puts him at the very bottom of the acceptable spectrum in the host country. As the effects of personal acculturation and shifting standards always oppose each other regardless of host/origin culture differences, the ultimate outcome of subjective self-rating questionnaires in this context entirely depends on their relative magnitude.

Figure 5 illustrates the issue for three possible constellations. In case acculturation-induced latent trait changes occur faster than associated reference group shifts, subjective self-ratings will indeed indicate a change in the objectively right direction, but systematically underestimate its magnitude. In case both effects are linear and equally strong, a sojourner's perception of personal deviance from the (changing) subjective standard will remain unchanged throughout different degrees of acculturation despite considerable changes in objective latent trait levels. The most paradox scenario, however, arises in cases where the shift of reference groups actually occurs faster than the adjustment of latent trait levels: even as a sojourner slowly changes in the direction of host/origin country differences, self-ratings would indicate changes in the opposite direction, because the effect of personal development is overcompensated by even stronger changes to the subjective norm.

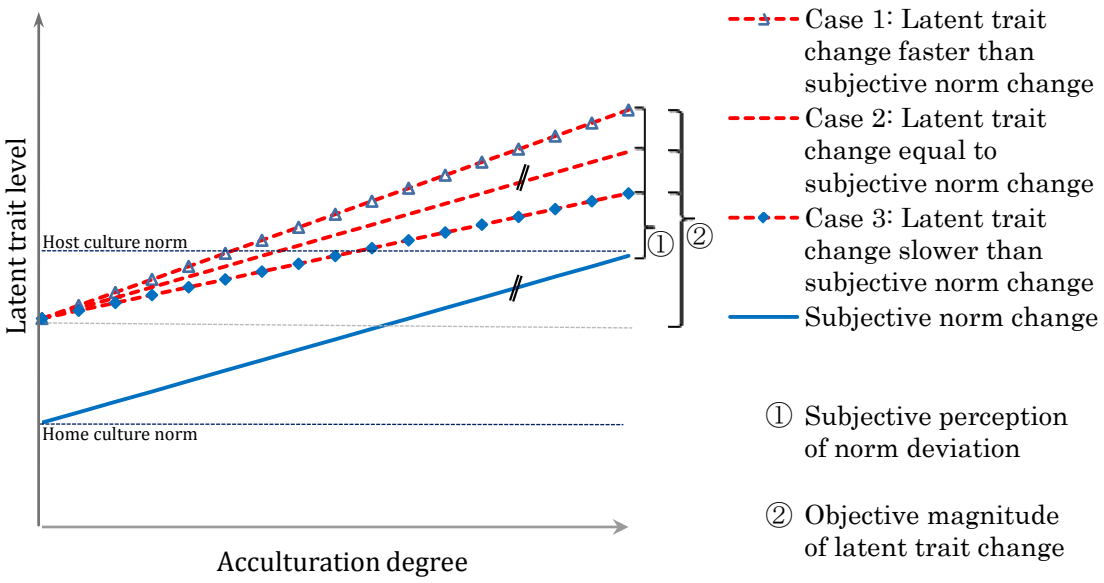

Figure 5. Confound of latent trait changes and reference group shifts during acculturation.

To my best knowledge, no other acculturation study has accounted for these issues. In order to prevent the validity problems described above, I decided to artificially fix the reference group participants used for self-evaluation by explicitly referring to a comparison with origin country peers[17] in all cases where shifting standards might have influenced the outcome of a measurement. Since this also minimized possible pre-sojourn differences between the standards applied by sojourners and sedentaries, it allowed for an unambiguous baseline comparison between both groups.

[17] This choice was also influenced by the consideration that high initial familiarity with origin country peers made profound changes in the perception of their behavioral dispositions unlikely even in cases where new experiences abroad led to a re-evaluation of their relative standing as a group in cross-cultural comparisons. Conversely, self-comparison with host country members or an abstract global average would always depend on the current degree of familiarity with that standard.

Questions and Hypotheses

The literature reviewed revealed a diverse range of questions that my own study on acculturating sojourners allowed to address. For reasons of simplicity, the following overview of associated hypotheses is split according to subject areas.

Hypotheses Concerning Sojourner Personalities and Values

H1: General trends. In line with previous studies, a common trend towards higher pre-sojourn levels of extraversion, agreeableness, conscientiousness, openness, and lower levels of neuroticism in direct comparison to sedentary origin culture peers was expected. Likewise, relatively higher levels of self-direction, stimulation and universalism, as well as lower traditionalism, conformity and security orientations appeared as likely.

H2: Fit between sojourner and host country characteristics. Complementing the general trends above, the theory of preference-driven host country selection predicted a positive correlation between sojourners' individual deviations from the national mean Big Five trait and value endorsement levels of their origin country, and associated host/origin culture differences.

Hypotheses Concerning the Acculturation Process

H3: Relation between acculturation, health, and life satisfaction. As previous research had indicated the importance of overall cultural embeddedness beyond specific acculturation orientations, I expected significant positive associations between sojourner life-satisfaction/health and host culture orientation, but a more limited or absent association with the degree of personal detachment from the origin culture.

H4: Influence of sojourn time on acculturation, health, and life satisfaction. In combination with the U-Curve Hypothesis, the theory on sociocultural and psychological adaption strongly suggested a general trend towards higher acculturation throughout the sojourn, qualified by a quadratic trend with a local minimum six months after its beginning for psychosomatic health and life satisfaction. Moreover, culture shock and reverse culture shock theories predicted a significant

decrease in health and well-being during the weeks directly following a cultural transition.

H5: Prediction of acculturation success by sojourner and host country characteristics. In light of my literature review, a positive association of acculturation speed and pre-sojourn levels of extraversion, agreeableness, conscientiousness, openness, self-direction, and universalism, as well as a negative association with neuroticism, traditionalism, conformity and security-orientation was expected. Additionally, previous studies on the effects of cultural distance predicted a negative association between estimated host/origin country differences in national mean Big Five and value endorsement levels and acculturation success, leading to country-specific variations in the general pattern.

H6: Effects of acculturation on sojourner personality and personal values. As predicted by the theory of accelerated maturation, I expected sojourners to increase in extraversion, agreeableness, conscientiousness and emotional stability throughout their sojourn. Moreover, I expected that these general trends were qualified by a progressive change in Big Five and value endorsement levels in the direction of host/origin country differences, reflecting differential acculturation in reaction to the specific requirements of the host culture environment.

Hypotheses Concerning the Measurement of Cultural Differences

H7: Agreement between sojourner ratings and national self-rating mean differences. Due to the methodological issues associated with the Reference Group Effect, I expected little agreement between sojourner-rated host/origin culture differences, and alleged cultural differences as calculated from mean within-culture self-ratings on subjective Likert scales.

H8: Accuracy of sojourner ratings. I expected that sojourners travelling between the same countries in opposite directions agree at least on the general direction of respective Big Five and value differences. However, as each participant group used a different language version, and since no previous data on the accuracy of sojourner estimates was available, I was unsure about the degree of metric agreement within and across host/origin country combinations.

Method

Participants

Despite an original focus on the acculturation and personality development of German students in Japan and the US, I was able to recruit sufficient numbers of in-coming international students, interns and working holiday members[18] from both countries, as well as a small supplementary sample of sojourners travelling between Japan and the US, to expand the scope of my research.[19] To reach a maximum number of potential candidates, a three-fold strategy was adopted. First, a letter explaining the scientific background of the study was sent to several hundreds of academic study abroad offices, embassies, bicultural societies and notable people involved in cross-cultural exchange or language education throughout Germany, Japan and the US.[20] Attached to this letter was a brief tri-lingual (English, German and Japanese) invitation to visit the project homepage, which the recipient was asked to forward to sojourners fitting the study's requirements (see appendix H). Whenever necessary, an opportunity to discuss details of the project was provided either by phone, email, or during personal meetings. Second, an advertisements for the study was placed in several online communities and internet newsgroups frequently visited by sojourners. Third, already registered participants were continuously asked to invite sojourner friends and acquaintances to join the study, and provided with convenient means to do so (e.g. ready-made multilingual invitation letter templates). This also allowed for a certain degree of control over the amount and type of information the candidates received prior to their first participation.

From late 2010 to April 2012, a total of 1130 unique visitors of the study homepage decided to register for future online participation, providing information on their

[18] A special German/Japanese exchange program for young people below age 30. Participants are provided with a visa that allows them to work and travel in the respective host country for up to one year.

[19] The three countries selected for comparison are unique in the regard that they share roughly equivalent economic and political, but not cultural conditions. While a comparison of countries less similar in these domains would have provided additional opportunities for acculturation effects to manifest, it would have been considerably harder to pinpoint their exact cause.

[20] I am very grateful for the widespread support received. Without it, this study could never have been realized. While the number of one-time cooperation partners acquired around the globe is too large to be mentioned in its entirety here, a complete list of all major contributing organizations is available at request directly from the author.

respective host and origin countries, demographic background, sojourn schedule, and email address.[21] Based on this data, visitors above age 30 or with a sojourn length of less than two months were denied further access, as the study's primarily interest was an analysis of the personality development of young adults spending a significant amount of time abroad. While several of the analyses discussed in this paper are based on much smaller subsamples drawn from the total participant population (which will be described in the corresponding results sections), the number of visitors who matched the age and sojourn length requirements and actually completed at least some of the core questionnaires amounted to 471 German ($M_{\text{Age}} =$ 23.60 years, $SD = 2.28$; 59.0% female; 2.2% married), 164 Japanese ($M_{\text{Age}} = 23.38$, $SD = 3.29$; 65.2% female; 3.1% married), and 159 US sojourners ($M_{\text{Age}} = 21.55$, $SD =$ 2.46; 67.3% female; 3.9% married). With a single exception, all participants had attained a level of education equal to a high school graduate or above, and more than two thirds of each national sample was attending university. An ANOVA revealed that age significantly differed between participant groups, $F(2, 772) = 37.65$, $p < .001$. Post-hoc Tukey *HSD* tests indicated that this was due to US participants being younger than both their Germany and Japanese counterparts ($p < .001$), while the small difference between the German and the Japanese sample was non-significant. There was no significant difference in gender distribution across the three sojourner samples either, χ^2 ($df = 2$, $N = 775$) = 4.37, n.s. Except for the lower mean age of the US participants, all samples showed remarkable similarity in their demographic composition.

Measures

A fundamental principle of the study was that all project-related materials, including questionnaires, explanations, e-mails, newsletters, and feedback forms were always presented in a participant's native language. In cases where no official translations (e.g., for modified questionnaire instructions) were available,

[21] This number is already adjusted for dummy registrations with fake email-addresses, impossible sojourn schedules and/or extremely implausible demographic data. As registration was only possible as the final step after passing through a lengthy introductory section stressing the scientific nature of the project, some visitors with limited interest in serious research may have been discouraged from registration.

translations from the respective source materials were subjected to an iterative process of translation and back-translation by the author and three bilingual assistants (a German living in the UK, a Japanese living in Germany, and an American living in Japan). Each of the assistants, as well as the author, was either a native resident or had lived and worked several years in the target and source countries of the materials they were asked to translate. In cases where the wording and meaning of back-translations severely differed from the original, additional sequences of translation were initiated until both the author and the respective assistant agreed that a satisfactory analogy of wording and meaning of both had been reached. While this "decentering" approach certainly is not the ultimate solution for all translation problems, it is one of the methods most commonly applied in Cross-Cultural Psychology to ensure a basic level of comparability between different language versions of the same instrument (see Brislin, 1986; Van de Vijver & Leung, 1997a; 1997b).

Big Five personality traits: self-rating. The 44-item Big Five Inventory (BFI; German: Rammstedt, 1997; Japanese: Fukushima, Sakaguchi, Soma, & Gladman, 2003; English Original: John & Srivastava, 1999) was used to measure the Big Five personality traits; items were rated on a 5-point Likert scale ("disagree strongly" to "agree strongly"). To assure the baseline trait levels used for self-evaluation stayed the same throughout the sojourn, participants were asked to rate each item after comparing themselves with peers in their home country (see appendix A). In light of this small change to the instructions, and since I was dealing with a special subgroup of individuals whose answering patterns might differ from the general population, I considered it prudent to re-examine the reliabilities of all BFI versions. For this, I calculated the mean internal consistencies of each language version across all participation periods, weighting the results from each chapter with the number of cases for that language version and chapter. With the possible exception of the agreeableness scale in the Japanese version, the results were quite satisfactory (German: Extraversion $\alpha_E = .89$; Agreeableness $\alpha_A = .73$; Conscientiousness $\alpha_C = .83$; Neuroticism $\alpha_N = .83$; Openness $\alpha_O = .82$; Japanese: $\alpha_E = .87$; $\alpha_A = .62$; $\alpha_C = .77$; $\alpha_N = .74$; $\alpha_o = .79$; English: $\alpha_E = .87$; $\alpha_A = .75$; $\alpha_C = .84$; $\alpha_N = .84$; $\alpha_O = .81$).

In order to compensate for different self-rating standards across language versions and sojourner nationalities, all subsequent calculations involving more than one

national group were based on standardized scale scores, which were z-transformed according to the means and standard deviations observed among sedentary peers in a sojourner's respective origin country. Accordingly, these standardized BFI values can directly be interpreted as a participant's personal deviation from the respective origin culture average, scaled in multiples of the origin country standard deviation (Glass's Δ).[22]

Big Five personality traits: home/host-culture comparison. Items of this scale were identical to the self-rating version described above, but instructions asked whether each item tended to apply more to the inhabitants of a sojourner's host country, or to her/his sedentary peers at home (5-point Likert scale; "host culture members much more" to "home culture members much more"; German: Extraversion $\alpha_E = .92$; Agreeableness $\alpha_A = .53$; Conscientiousness $\alpha_C = .90$; Neuroticism $\alpha_N = .64$; Openness $\alpha_O = .66$; Japanese: $\alpha_E = .75$; $\alpha_A = .60$; $\alpha_C = .81$; $\alpha_N = .65$; $\alpha_o = .72$; English: $\alpha_E = .67$; $\alpha_A = .78$; $\alpha_C = .85$; $\alpha_N = .56$; $\alpha_o = .82$). In order to minimize the imminent threat of answers inspired solely by common stereotypes about national groups, participants were explicitly asked to base their judgments as much as possible on their own personal observations and/or experiences with host and origin culture peers. Also, while instructed to accurately report any perceived difference in the frequency or magnitude of a trait or behavior, they were warned to avoid over-generalizations (see appendix B).

Personal values: self-rating. The ten basic value orientations proposed by Schwartz's (1992) circumplex model were assessed with the 40-item Portrait Values Questionnaire (PVQ; German: Schmidt, Bamberg, Davidov, Herrmann, & Schwartz, 2007; Japanese: Paletz, 2003; English: Schwartz, 2007). Each item described the value endorsement of a sojourner's origin country peer, and participants were asked to rate how closely the person described resembled themselves (6-point Likert scale, "not at all like me" to "very much like me"; see appendix C). In accordance with the guidelines provided by Schwartz, all calculations including the PVQ were based on ipsatized value scores (raw item score minus mean score across all 40 items), which are assumed to be less influenced by response tendencies and to allow for a direct

[22] In cases where the standard deviations observed in the sedentary group and sojourner groups are very similar, Glass's Δ becomes undistinguishable from the more commonly used Cohen's d (Cohen, 1988). While not entirely correct from a mathematical perspective, naming conventions for Cohen's d were adopted for verbal descriptions of associated effect sizes.

comparison of the relative importance of each value (see Schwartz, 2005, for details).[23] While not all of the observed mean reliabilities across assessments were in the optimal range, they were mostly satisfactory considering the small number of items in each facet scale, and similar to those reported for the unmodified originals (German: Conformity α_{Co} = .55; Tradition α_{Tr} = .53; Benevolence α_{Be} = .73; Universalism α_{Un} = .77; Self-Direction α_{Sd} = .58; Stimulation α_{St} = .77; Hedonism α_{He} = .83; Achievement α_{Ac} = .85; Power α_{Po} = .71; Security α_{Sc} = .64; Japanese: α_{Co} = .69; α_{Tr} = .47; α_{Be} = .60; α_{Un} = .77; α_{Sd} = .70; α_{St} = .78; α_{He} = .78; α_{Ac} = .77; α_{Po} = .68; α_{Sc} = .71; English: α_{Co} = .62; α_{Tr} = .40; α_{Be} = .76; α_{Un} = .80; α_{Sd} = .69; α_{St} = .77; α_{He} = .83; α_{Ac} = .84; α_{Po} = .73; α_{Sc} = .69). By far the most problematic items were those of the tradition dimension; the psychometric weakness of this scale, especially in a cross-cultural context, is a well-known fact recognized even by the original authors of the instrument (Liem, Martin, Nair, Bernado, & Prasetya, 2011; Schwartz, 2005). I attempted to single out and eliminate the item(s) responsible for the inconsistency, but ultimately failed; across language versions, the items with the lowest item-scale correlation differed, and no single, definite source of the problem could be discovered. While the low consistency of the tradition scale certainly is a caveat, I decided to include it in the following analyses for the sake of completeness.

As with the BFI before, calculations involving more than one national group were based on a z-transformation of raw scale scores according to the means and standard deviations observed among a sojourner's sedentary peers.[24]

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[23] Schwartz argues that studies of value priorities are generally not concerned with the absolute importance of single values, but the relative importance of particular values in contrast to others, which often have opposing implications for the selection and initiation of possible actions. Basically, he describes the whole process as a trade-off or balancing among multiple values that are simultaneously relevant (Schwartz, 1996; 2004). Differences in mean endorsement across all values are considered mere artifacts; the scale use correction mentioned above converts absolute value scores into scores that indicate the relative importance of each value in the value system, i.e., individual's value priorities. It must be mentioned that Schwartz's proposed method of ipsatizing asks for the subtraction of the mean of all items from each of the ten value scores. Since the number of items measuring a value is not constant across the ten values, this leads to slightly different results than the more common method of ipsatizing by subtracting the mean of all items from each item separately (e.g., the mean of all ten ipsatized values is not necessarily zero). For reasons of comparability with previous studies, Schwartz's method was adopted in this study.

[24] While Schwartz's argumentation seems to imply that the intra-personal ipsatization procedure already eliminates reference group effects, the appropriateness of this assumption can be disputed. For example, some inhabitants of highly traditional countries may rate the relative importance of traditionalism for their personal life as comparatively low. But just as in the case of

Personal values: home/host-culture comparison. Items of this scale were identical to the self-rating version above, but asked for a direct comparison of home and host-culture members (5-point Likert scale; "host culture members much more" to "home culture members much more"). Again, calculations were based on ipsatized value scores, since, in principle, Schwartz` argument for the exclusive examination of relative differences in value priorities applies to cross-cultural comparisons as well (i.e., differences in the mean importance of all values across cultures were also considered measurement artifacts). As for the BFI, participants were repeatedly warned to avoid over-generalizations, and to base their ratings as much as possible on personal experiences with origin and host country peers (see appendix D). Analysis of internal consistencies revealed that the measurement of tradition continued to be highly problematic.[25] While the psychometric properties of some other subscales also left room for improvement in certain language versions, arguably most were still in an acceptable range (German: Conformity $\alpha_{Co} = .79$; Tradition $\alpha_{Tr} = .28$; Benevolence $\alpha_{Be} = .63$; Universalism $\alpha_{Un} = .67$; Self-Direction $\alpha_{Sd} = .64$; Stimulation $\alpha_{St} = .86$; Hedonism $\alpha_{He} = .87$; Achievement $\alpha_{Ac} = .77$; Power $\alpha_{Po} = .61$; Security $\alpha_{Se} = .61$; Japanese: $\alpha_{Co} = .43$; $\alpha_{Tr} = .00$; $\alpha_{Be} = .37$; $\alpha_{Un} = .58$; $\alpha_{Sd} = .58$; $\alpha_{St} = .71$; $\alpha_{He} = .53$; $\alpha_{Ac} = .78$; $\alpha_{Po} = .28$; $\alpha_{Se} = .65$; English: $\alpha_{Co} = .54$; $\alpha_{Tr} = .25$; $\alpha_{Be} = .51$; $\alpha_{Un} = .76$; $\alpha_{Sd} = .62$; $\alpha_{St} = .52$; $\alpha_{He} = .69$; $\alpha_{Ac} = .65$; $\alpha_{Po} = .55$; $\alpha_{Se} = .52$).

Acculturation degree. The 20-item Frankfurt Acculturation Scale (FRAKK; German: Bongard, Pogge, et al., 2002; Japanese: Soeldner, 2008; English: Bongard, Mortazavi, & Kelava, 2002) was used to assess acculturation. The FRAKK consists of several short statements on a wide array of acculturation attitudes and behaviors related to host and origin culture endorsement, and subjects are asked to evaluate to what degree

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self-comparison with absolute cultural standards, the assessment of the relative importance of a personal value must be seen in the context of self-comparison with the local standard for the relative importance of that value in comparison to other values. Consequently, the possibility of *Reference Group Effects* can once again not be excluded, despite assertions to the contrary by Fischer & Schwartz (2011). In order to truly account for this possibility, I considered a second z-transformation according to cultural standards inevitable.

[25] Although this scale is generally problematic, a detailed analysis for all sojourner groups separately revealed that the most critical item seems to be Nr. 20 ("importance of religious beliefs"). Arguably, the combination of an increased spectrum of new religious and philosophic beliefs available for selection, as well as the general decline (or, in the case of Japan, the virtual absence) of belief in traditional, institutionalized religion among young and internationally oriented students is at least partially responsible for the low correlation with the other items in this scale.

each statement is applicable to their own situation (7-point Likert scale "doesn't fit me at all" to "fits me perfectly"). Items cover social relations and attitudes as well as personal feelings and language use, and provide for the calculation of three different indices called "Association with the New Cultural Environment" (AK), "Dissociation From the Culture of Origin" (HK) and their aggregate "Overall Acculturation" (AI), which closely match the dimensions of Berry's two-factorial model of acculturation (Berry et al., 1989; Berry & Sam, 1996; Berry et al., 1986; see appendix E). Given the wide variety of topics covered by each subscale, the observed mean reliabilities across language versions and assessment periods were satisfactory (German: $\alpha_{AK} = .82$; $\alpha_{HK} = .79$; $\alpha_{AI} = .87$ Japanese: $\alpha_{AK} = .67$; $\alpha_{HK} = .70$; $\alpha_{AI} = .75$ English: $\alpha_{AK} = .81$; $\alpha_{HK} = .74$; $\alpha_{AI} = .85$).

Subjective perception of acculturation difficulty. In addition to the FRAKK, I also reviewed the available literature for other commonly used indicators for acculturation success. The final list included eleven ad hoc items, each of which described a certain prototypical problem from a broad range of difficulties frequently experienced during acculturation (e.g., loneliness, foreign eating habits, etc.; see the appendix F). Each item asked participants to rate the severity of the problems they currently experienced in that area on a 4-point Likert scale ("none" to "considerable"). An additional item at the end of the list used the same scale format, but asked for a subjective overall assessment of the difficulties a sojourner currently had to cope with. While the pattern of item intercorrelations notably differed between sojourner groups, both the Pearson correlation r of the mean of the first eleven items with the final, "overall" rating and the internal consistency of the complete scale were satisfactory across language versions and assessment periods considering that a very small number of items was used to cover very diverse sociocultural and psychological topics (German: $r = .72$, $\alpha = .69$; Japanese: $r = .53$, $\alpha = .69$; English: $r = .69$, $\alpha = .70$). The mean of all twelve items was used as a complementary index for the subjectively experienced severity of acculturation difficulties (SI).

Health. As an indicator for general health, the presence and severity of minor psychiatric and psychosomatic disorders throughout participation was measured with a 12-item short version of the General Health Questionnaire (GHQ; Goldberg & Williams, 1988). While well-evaluated Japanese (Doi & Minowa, 2003) and German (Schmitz, Kruse, & Tress, 1999) versions exist, the factorial structure of this

instrument is object of ongoing debates (Shengquan, 2009). Consequently, only the respective summary scores were used. Despite the inherent diversity of its items, the scale showed satisfactory mean reliabilities across participation periods (German: $\alpha = .81$; Japanese: $\alpha = .83$; English $\alpha = .82$) when using the recommended binary method of scoring.

Life satisfaction. Overall satisfaction with life was measured by the 5-item Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). This scale assesses the cognitive component of general well-being (Diener, Suh, Lucas, & Smith, 1999) by measuring agreement to five short statements about a participant's life in general (7-point Likert scale, "strongly disagree" to "strongly agree"). It was translated and evaluated in a multitude of languages, including German (Schumacher, 2003) and Japanese (Sumino, 1994). Observed mean reliabilities across assessments were good despite the low number of items (German: $\alpha = .87$; Japanese: $\alpha = .82$; English $\alpha = .84$).

Procedure

In order to maximize the comparability of experimental conditions for all participants despite varying sojourn schedules, the individual timing of consecutive measurement occasions followed a fixed pattern of intervals relative to their respective dates of departure and return home (T1 to T6; see Table 1, top row). Regardless of participation status, each visitor to the project homepage was always asked to state host and home country, and the personal sojourn schedule first.[26] Based on this information, each was then directly assigned an online version of the questionnaire appropriate for the current sojourn stage (see Table 1, lower rows), or, in case no participation was scheduled (T0), a special supplemental questionnaire. While continuous participation in the study was strongly encouraged, participants were allowed to newly join or leave the project during any sojourn stage. Thus, the obligatory demographic questionnaire was included directly in the first questionnaire a sojourner completed, and omitted thereafter.

[26] This includes participants who had already registered with their sojourn schedule before. Sometimes sojourn schedules unexpectedly changed during the course of a sojourn, a possibility that had to be accounted for.

Table 1

Overview of the Instruments Used During Each Measurement Occasion

T0 (outside participation schedule)	T1 (1 month prior to departure)	T2 (1 month after arrival in host country)	T3.1 (6 months after arrival in host country)	T3.2 (1 year after arrival in host country)	T4 (1 month before return to home country)	T5 (1 month after return to home country)	T6 (Follow-up 6 months after return home)
BFI Country Comparison	BFI Self-Rating	BFI Self-Rating	BFI Self-Rating	BFI Self-Rating	BFI Self-Rating	BFI Self-Rating	BFI Country Comparison
PVQ Country Comparison	PVQ Self-Rating	PVQ Self-Rating	PVQ Self-Rating	PVQ Self-Rating	PVQ Self-Rating	PVQ Self-Rating	PVQ Country Comparison
	GHQ	GHQ	GHQ	GHQ	GHQ	GHQ	
	SWLS	SWLS	SWLS	SWLS	SWLS	SWLS	
		FRAKK	FRAKK	FRAKK	FRAKK		
		SI	SI	SI	SI		

Note. BFI = Big Five Inventory; PVQ = Portrait Values Questionnaire; GHQ = General Health Questionnaire; SWLS = Satisfaction With Life Scale; FRAKK = Frankfurt Acculturation Scale; SI = Subjective Acculturation Difficulty Index.

Once per week, an automated script dispatched personalized email reminders to all registered sojourners who were eligible for participation in one of the questionnaires, provided they had not yet taken the opportunity to do so before. In cases where two participation periods overlapped, were separated by less than a two-week interval, or the calculated timeframe for a later questionnaire preceded the timeframe of an earlier one (e.g., as T4 precedes T3.1 in case of a total sojourn length below 6 months), the later questionnaire preceded, and the earlier one was skipped.

Ideally, participants would register at the project homepage at least one month before the beginning of a sojourn, and complete all following questionnaires according to their personal sojourn schedule. However, as many joined the study late, returned home after less than a full year abroad,[27] or did not yet finish their participation by the time this dissertation was written, cases with valid data from all measurement occasions are an exception. This is especially true for sojourners travelling between Japan and the US; due to the comparatively late establishment of the associated project branch (see above), case numbers for such participants who had already completed the final questionnaires were still limited at the end of data collection. Table 2 provides an overview of participant numbers by sojourner group and scheduled measurement occasion.

To increase personal involvement with the study and retention rates, a special comment section at the end of each questionnaire provided sojourners with an opportunity to voice their opinions and experiences abroad with their own words. While, due to time constraints, not all comments received a personal reply, those of general interest were included (and answered) in a monthly tri-lingual email newsletter and/or the project's online FAQ. Seasonal picture contests, where participants could send in a season-related snapshot from their host country to compete for a moderate monetary prize and a spot in the project's online gallery, served as a humorous diversion from the serious nature of the study. Participants who completed the final questionnaire or voiced their intention to withdraw prematurely also received a personal report sheet which contained a summary of their own development abroad and explained the scientific background of the study.

[27] The day a sojourner left his/her host country the first time for more than a month was defined as the end date of the sojourn. While this strict criterion somewhat lowered the available case numbers, I wanted to make absolutely sure that the acculturation process was not "contaminated" or partially reversed by prolonged absence from the host country.

Table 2

Overview of Measurement Occasions and Case Numbers

Sample	T0 (outside participation schedule)	T1 (1 month prior to departure)	T2 (1 month after arrival in host country)	T3.1 (6 months after arrival in host country)	T3.2 (1 year after arrival in host country)	T4 (1 month before return to home country)	T5 (1 month after return to home country)	T6 (Follow-up 6 months after return home)
N_{total}	556	330	281	171	24	216	180	33
$n_{G\ in\ J}$	121	80	68	45	8	58	54	11
$n_{G\ in\ A}$	197	154	121	63	5	95	81	13
$n_{J\ in\ G}$	90	23	30	29	6	25	12	5
$n_{J\ in\ A}$	34	14	8	7	1	2	2	3
$n_{A\ in\ G}$	92	39	38	23	2	25	24	1
$n_{A\ in\ J}$	22	20	16	4	2	11	7	0

Note. $n_{G\ in\ J}$ = Germans in Japan; $n_{G\ in\ A}$ = Germans in the US; $n_{J\ in\ G}$ = Japanese in Germany; $n_{J\ in\ A}$ = Japanese in the US; $n_{A\ in\ G}$ = Americans in Germany; $n_{A\ in\ J}$ = Americans in Japan.

Results

Dropout Analysis

One of the primary threats to the validity of longitudinal studies is a statistical association between dropout rates and any of the variables under observation, as such selective dropout tendencies can lead to a systematic distortion of results. Since most of the core analyses presented in later sections involved either comparisons between national groups or the observation of developments in the personality and value endorsement domains, I decided to begin with a detailed analysis of the relation between these variables and attrition rates.

Preliminary analyses showed that the sojourn stage during which a participant joined the project,[28] individual sojourn length estimates,[29] and the number of active participants at the end of data collection[30] distinctively differed between origin country groups. As all three parameters were directly related to the maximum number of questionnaires a participant could theoretically submit, a simple comparison of the average number of consecutive participations,[31] the raw percentage of mid-project dropouts,[32] or the number of those who resumed their participation after missing a

[28] Indeed, 99 (28.5%) of the Germans, 40 (49.4%) of the Japanese and 47 (43.1%) of the US participants who completed at least one of the scheduled main questionnaires ($n = 537$) joined after the beginning of their sojourn and thus never had a chance to complete all questionnaires in the first place. A series of Chi-Square tests revealed that both Japanese and US participants had a significantly higher "risk" for late entry, in turn missing relatively more of the initial questionnaires than German participants ($\chi^2(1) = 13.02$, $p < .001$ and $\chi^2(1) = 8.11$, $p < .01$, respectively), but differed not significantly from each other. Also, by the time this paper was written, 80 (47.1%) of the German, 40 (74.1%) of the Japanese, and 19 (39.6%) of US and participants were still active participants who had neither dropped out (see below) nor passed the timeframe for participation in the final main chapter of the study (T5).

[29] Participants who did not have a fixed return schedule yet were asked to input a tentative schedule during the signup process. To defend against extreme outliers (in the magnitude of several decades), which may well have been placeholder values, I calculated the median of the sojourn length estimates. The resulting value was 287 days for the German, 364 days for the Japanese, and 285 days for the US sojourner group.

[30] The percentage of active participants who had neither completed the final main questionnaire (T5) nor left the project prematurely. This definition applied to 68 (19.6%) of the Germans, 13 (16.0%) of the Japanese, and 23 (21.1%) of the US participants. These differences did not reach customary levels of significance, $\chi^2(2) = .79$, n.s.

[31] $M = 3.03$ for Germans, $M = 2.57$ for Japanese and $M = 2.53$ for the US sample, respectively.

[32] Participants who missed all subsequent questionnaires after finishing one or more of the

questionnaire[33] would not allow for a fair comparison of relative perseverance. Similar considerations also forced the adoption of a method of analysis that would allow for a statistically sound and conceptually fair control for special events during data collection.[34]

The Cox Regression procedure in SPSS fulfilled all these requirements, as it allowed to examine the effects a specified variable had on the percentage of remaining participants at any given time, and adequately took into account both the theoretical maximum length of participation for a given sojourner, as well as cases where no normal drop-out occurred.[35] Consequently, the following in-depth survival analysis could be based on the complete dataset of 537 sojourners who had completed one of the scheduled questionnaires.

National trends: Number of completed questionnaires. The first round of Cox Regressions used the number of questionnaires sojourners from each national group completed throughout their participation as an indicator for relative retention success. In each case, age and gender effects were controlled for in the first block of model parameters (stepwise inclusion based on likelihood ratios), whereas effects of participant origin country were examined in the second block.[36] An exploratory

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main chapters of the study. The actual numbers were 143 (41.2%) in the German, 54 (66.7%) in the Japanese, and 55 (50.5%) in the US sample, respectively. This leads to an overall dropout rate of 46.9%. Only the difference between Japanese participants and the German and US sojourner groups were statistically significant, $\chi^2(1) = 17.13$, $p < .001$ and $\chi^2(1) = 4.99$, $p < .05$, respectively.

[33] Of those who had missed a scheduled questionnaire, 46 (25.6%) Germans, 4 (7%) Japanese and 7 (11.7%) US participant later re-joined the project. The relative percentages of sojourners who came back after missing a questionnaire was significantly lower in the Japanese and US sojourner groups than in the German sample; $\chi^2(1) = 8.94$, $p < .01$ and $\chi^2(1) = 5.05$, $p < .05$, respectively. There was no difference between the Japanese and US groups $\chi^2(1) = .74$, n.s.

[34] On 2011/03/11, an earthquake of unprecedented magnitude struck eastern Japan, causing great distress to the Japanese and most foreigners to (temporarily) flee the country. Consequently, sojourners in or from Japan missing the first possible participation period after this natural disaster ($n = 21$) were not considered "normal" drop-outs for all subsequent analyses; instead, they were treated as if they had left the project due to a natural end of their participation, as after the last (T5) questionnaire. This lowered the overall dropout rate to 43.0%, a decrease mainly attributable to lower adjusted dropout rates for Japanese participants, $n = 42$ (51.9%).

[35] E.g., because a participant was still active, because he had completed the final main questionnaire (T5), or because he was in or from Japan and disappeared from the project during the aftermath of the Great Eastern Japan Earthquake crisis.

[36] In this and all following Cox Regression analyses, participant age and gender always failed to reach statistical significance. Consequently, they were automatically dropped during the final calculation of parameters. I also repeated analyses with age and gender forced into block one of the regression equation. This slightly changed parameter estimates, but had no effect on the

contrast analysis revealed significantly lower[37] relative dropout hazard among Germans in comparison to the pooled Japanese and US samples ($\chi^2(1) = 8.97$, Exp(β) = .67, $p < .01$). Splitting the latter in concrete national groups, I was able to confirm both an overall effect of origin country ($\chi^2(2) = 9.24$, $p < .01$), as well as significant differences between the German sample and the Japanese on the one hand, and between Germans and participants from the US on the other ($\chi^2(1) = 6.70$, Exp(β) = .63, $p < .01$ and $\chi^2(1) = 4.91$, Exp(β) = .69, $p < .05$, respectively; see Figure 6). Conversely, survival rates did not significantly differ between the Japanese and US groups ($\chi^2(1) = .21$, n.s.).

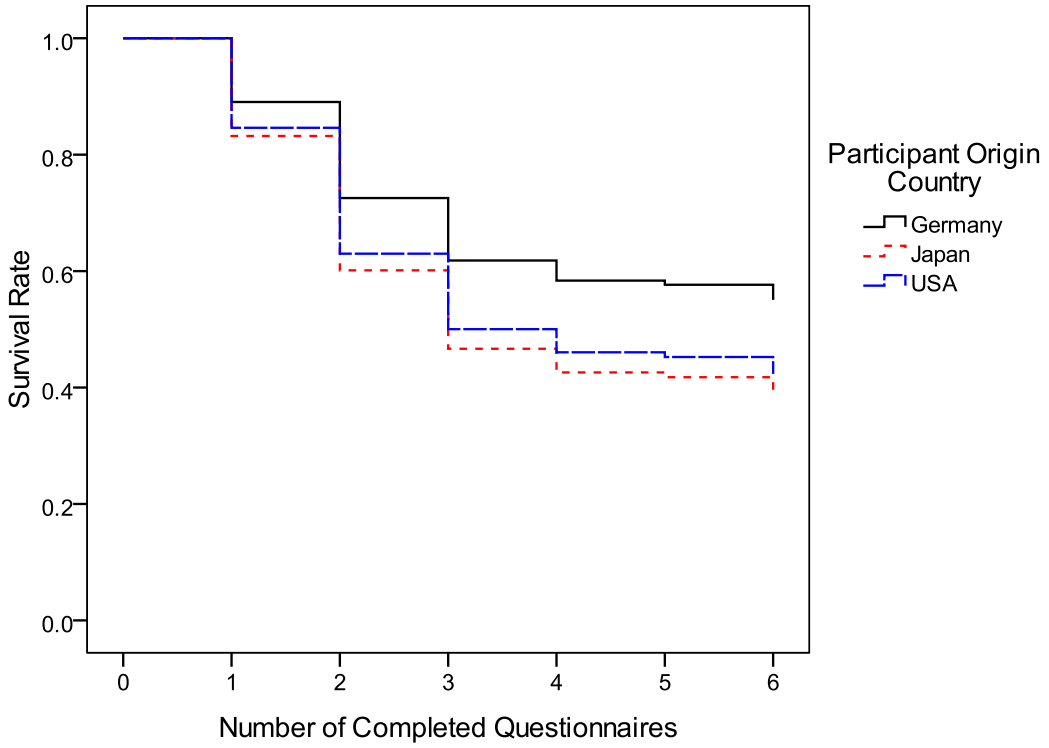

Figure 6. Estimated survival functions for number of completed questionnaires by sojourner country of origin.

National trends: Total participation time. Another approach towards the measurement of participant loyalty was a straightforward comparison of the total number of days between the first and last time a sojourner completed one of the

pattern of significant differences between national groups.

[37] In the case of categorical predictors, Exp(β) describes the ratio of dropout hazards in both groups.

questionnaires. As before, contrasting the German sample with the other national groups revealed a significant retention bonus for the former (χ^2 (1) = 11.25, Exp(β) = .63, p < .001). The difference between national groups remained apparent even after decomposing the pooled Japanese/US samples ($\chi^2(2) = 12.95$, $p < .01$). Once again, Germans appeared to be slightly more inclined to follow through with their participation than their Japanese counterparts (χ^2 (1) = 3.38, Exp(β) = .72, $p = .07$), and clearly more so than those from the US (χ^2 (1) = 12.04, Exp(β) = .56, $p < .001$; see Figure 7). And as before, the difference between the Japanese and US samples did not reach customary levels of statistical significance (χ^2 (1) = .97, n.s.).

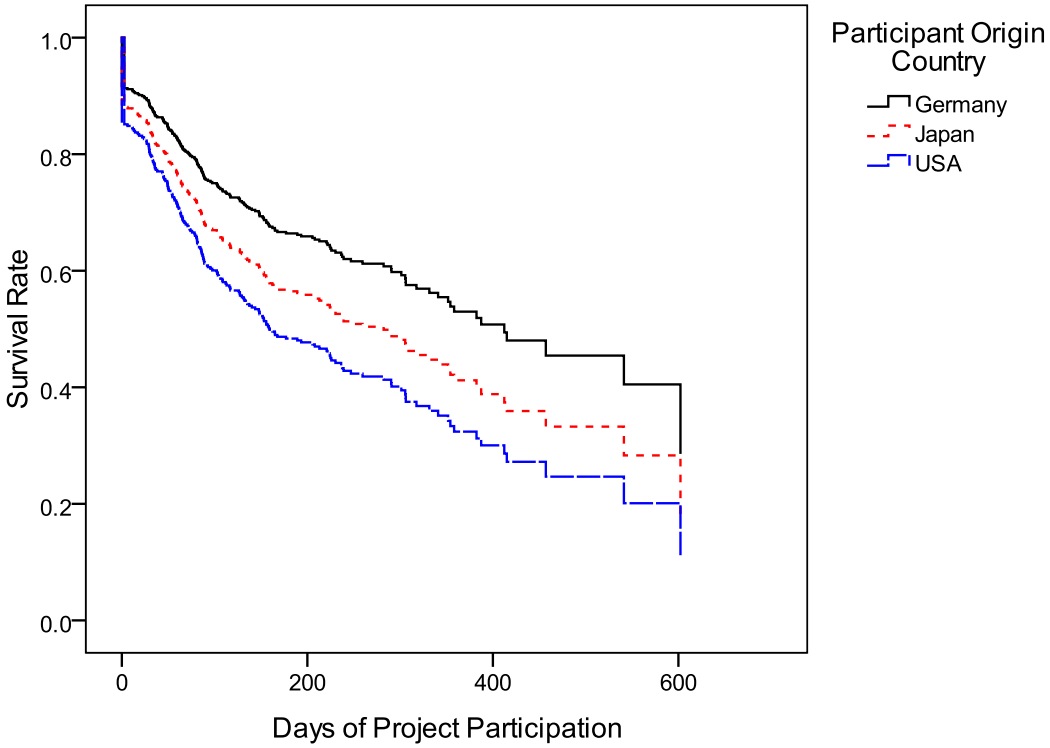

Figure 7. Estimated survival functions for total participation time by sojourner country of origin.

Influence of personality and personal values: Number of completed questionnaires. Effects of the personality traits and personal values of a sojourner on the number of completed questionnaires were examined by including the standardized[38] BFI and

[38] All personality (BFI) and values (PVQ) self-ratings were z-transformed according to home country means and standard deviations in order to account for different national standards for self-evaluation; see method section.

PVQ self-ratings at the first time of project participation into a second block of covariates after controlling for age and gender effects in the first (stepwise entry according to likelihood ratio). This analysis revealed that for each point of standardized deviation in neuroticism and openness above the origin country mean, sojourners had a roughly 20%[39] higher dropout hazard ($\text{Exp}(\beta) = 1.20$, $p < .05$ and $\text{Exp}(\beta) = 1.22$, $p < .05$, respectively). Similar trends for extraversion and hedonism barely missed statistical significance ($p = .05$ and $p = .09$).

Since the previous section had revealed a significant tendency for higher retention rates among German participants, I had to ensure that these alleged personality effects were not only a by-product of mean personality trait level differences between origin country groups (and vice versa). Consequently, the analysis was repeated after controlling for membership in either the German or the combined Japanese/US sample in the second block of model parameters, while the personality and value endorsement covariates were relegated to a third block.[40] This indeed slightly changed results: Although the negative influence of neuroticism on retention rates was confirmed ($\text{Exp}(\beta) = 1.30$, $p < .01$), extraversion replaced openness as the only other significant predictor for dropout propensity ($\text{Exp}(\beta) = 1.32$, $p < .01$).

Influence of personality and personal values: Total participation time. The pattern for total participation time until dropout was very similar. Once again, the triplet of extraversion ($\text{Exp}(\beta) = 1.19$, $p < .05$), neuroticism ($\text{Exp}(\beta) = 1.28$, $p < .01$), and openness ($\text{Exp}(\beta) = 1.18$, $p < .05$) emerged as the sojourner characteristics most strongly associated with a premature end to participation. And as before, only neuroticism and extraversion retained their predictive power after membership in origin country groups was controlled for ($\text{Exp}(\beta) = 1.31$, $p < .01$ and $\text{Exp}(\beta) = 1.32$, $p < .01$, respectively).

Dropout Analysis: Summary. In short, results of the analysis of country specific for both the number of completed questionnaires and the number of days of project participation revealed considerably higher retention rates for German participants in direct comparison to those observed in the Japanese and US samples. Results concerning the relationship between sojourner personality, personal values and

[39] In the case of continuous variables, the relative hazard increase associated with a one-point increase in the predictor variable can be calculated as 100%*[Exp(β)-1].

[40] A simple combination of all predictors in the first block led to exactly the same outcome, because origin country group was always selected first during stepwise inclusion.

dropout rates revealed a significant trend for selective dropout among highly neurotic and extravert individuals. A negative trend for openness was tentatively identified as an artifact of associated differences between national groups.

Since these tendencies for selective dropout represent a systematic influence on the development of mean personality trait levels throughout the sojourn that is completely independent of changes on the individual level, classic methods of cross-sectional analysis were clearly discouraged for an examination of the latter. This finding in turn had a profound influence on the selection of appropriate statistical methods in a later section of this dissertation.

National Differences in Mean Personality Trait and Value Endorsement Levels

National differences between mean personality trait levels (e.g., Schmitt et al., 2007) or the relative importance of values (e.g., Schwartz, 1992) continue to be a controversial and statistically challenging topic. My study enabled me to contribute to the ongoing discussion by using direct sojourner ratings of said differences as a new approach to their direct measurement.

Sojourner difference ratings. Sojourner ratings of the differences in national mean Big Five and value endorsement levels between their host and home countries were obtained with special country-comparison versions of the BFI and the PVQ (see method section) during their participation in the supplementary T0 questionnaire (provided outside scheduled participation periods), as well as during a follow-up session six months after the end of the actual sojourn (see Table 1).[41] Since I was only interested in estimates backed up by substantial experience with the host culture, and although this severely limited the number of observations available for Americans in Japan, only ratings obtained from participants who had stayed at least three consecutive months abroad at the time of the assessment were included in the following analyses. In the rare cases where a sojourner had provided more than one eligible estimate (e.g., by participating in both the T0 and T6 questionnaires), the

[41] At its core, this approach towards the measurement of cultural differences is based on the intersubjective consensus approach proposed by Wan and colleagues (Wan, Chiu, Peng, & Tam, 2007). Instead of aggregated national self-rating means, this method uses aggregated direct estimates of culture-wide shared traits and values as the basis for the calculation of cultural differences.

mean of all ratings was used. Average difference ratings for each of the six sojourner groups represented in this study, as well as the respective sample sizes and standard deviations are detailed in Table 3.

For each country combination and instrument, I also calculated the average difference rating provided by paired sojourner groups whose members travelled between the same two countries in opposite directions (e.g. Americans in Germany and Germans in the US), weighting each group estimate by the respective number of cases. This weighted sojourner average estimate is also included in Table 3. For later use, I also calculated the mean of the absolute values of those weighted sojourner average estimates across all subscales of an instrument,[42] which can be interpreted as the sojourner-estimated "cultural distance" that separates the inhabitants of two countries with regard to their mean personality trait (ΔBFI) and value endorsement (ΔPVQ) levels.

[42] An alternative approach would have been to first calculate the mean of the absolute values of the difference estimates across all subscales for each individual sojourner, and then average across participants within a sojourner group. The first step arguably leads to an adequate estimate of individually perceived cultural distance. However, the result of the second step would be less representative for the sojourner group as a whole, as this type of aggregation completely ignores the sign of individual difference ratings (which may well run in opposite directions across individual sojourners). As a side-effect, the associated estimates for ΔBFI and ΔPVQ would always have been larger than the ones displayed in Table 3.

Table 3

Differences in National Personality and Value Endorsement Means as Rated by Sojourners and Calculated From Sedentary Self-ratings

	Difference Germany – Japan						Difference Germany – US						Difference Japan - US					
	Rated by Germans in Japan ($n = 44$)		Rated by Japanese in Germany ($n = 59$)		Sojourner weighted average	Calculated from sedentary data	Rated by Germans in the US ($n = 52$)		Rated by Americans in German ($n = 32$)		Sojourner weighted average	Calculated from sedentary data	Rated by Japanese in the US ($n = 16$)		Rated by Americans in Japan ($n = 8$)		Sojourner weighted average	Calculated from sedentary data
Scale	*M*	*SD*	*M*	*SD*	*M*	*M*	*M*	*SD*	*M*	*SD*	*M*	*M*	*M*	*SD*	*M*	*SD*	*M*	*M*
E	.69	.42	1.15	.41	.96	.17	-.75	.42	-.82	.45	-.78	.07	-1.26	.50	-.91	.46	-1.14	-.10
A	-.56	.45	-.32	.56	-.42	.25	-.53	.40	-.40	.42	-.48	-.25	.16	.44	.50	.53	.27	-.50
C	-.28	.49	-.22	.50	-.24	.34	.68	.40	.65	.45	.67	-.28	.82	.44	.60	.58	.75	-.62
N	.11	.57	-.52	.55	-.25	-.36	.52	.40	-.06	.30	.30	-.15	.38	.46	.16	.33	.30	.22
O	.20	.47	.27	.54	.24	.70	.18	.25	-.11	.42	.07	-.03	-.19	.45	-.68	.61	-.35	-.73
Co	-1.1	.49	-.93	.51	-1.04	-.31	.30	.54	.53	.60	.39	.15	1.20	.67	1.06	.43	1.15	.46
Tr	-.45	.37	-.29	.49	-.36	-.06	.03	.33	.20	.42	.09	-.25	.38	.51	.44	.32	.40	-.19
Be	-.27	.37	-.30	.51	-.29	.40	.07	.48	.04	.42	.06	.22	.12	.45	.37	.45	.20	-.18
Un	.23	.40	.33	.45	.29	.40	.44	.42	.39	.45	.42	.22	.18	.39	-.21	.24	.05	-.18
Sd	.88	.42	.68	.49	.76	.35	-.18	.46	-.31	.44	-.23	-.06	-.70	.55	-.75	.30	-.71	-.40
St	.85	.57	.51	.55	.65	.14	-.54	.54	-.49	.42	-.52	-.21	-.85	.65	-.81	.53	-.84	-.35
He	.43	.55	.61	.47	.53	-.13	-.58	.58	-.49	.64	-.55	.37	-.89	.71	-.56	.51	-.78	.49
Ac	.20	.62	-.10	.61	.03	-.83	-.28	.53	-.51	.50	-.37	-.55	-.59	.55	-.47	.27	-.55	.28
Po	.40	.44	-.11	.60	.11	-.41	-.08	.54	-.41	.57	-.21	-.39	-.37	.37	-.31	.53	-.35	.02
Sc	-.59	.51	-.25	.60	.40	.13	.22	.44	.38	.43	.28	.25	.71	.60	.69	.51	.70	.13
ΔBFI	.36	-	.49	-	.42	.36	.52	-	.40	-	.46	.16	.56	-	.57	-	.56	.43
ΔPVQ	.54	-	.40	-	.44	.32	.27	-	.38	-	.31	.27	.59	-	.56	-	.57	.27

Note. BFI subscales: E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness; PVQ subscales: Co = Conformity; Tr = Tradition; Be = Benevolence; Un = Universalism; Sd = Self-direction; St = Stimulation; He = Hedonism; Ac = Achievement; Po = Power; Sc = Security. ΔBFI; ΔPVQ = mean of the absolute values of the estimated host/origin country differences across all subscales of the BFI and the PVQ.

National differences calculated from within-culture self-rating means. My second estimate of between-country differences was based on the classic comparison of mean self-rating scores of sedentary inhabitants of each country. For this, I used datasets provided by the primary authors of the BFI and the PVQ, as well as authors of studies which had previously worked with and examined the validity of these instruments in Germany, Japan, or the US.[43] Most of these datasets allowed me to extract subsamples closely matched on age with the corresponding sojourner groups from the same country of origin (see participants section), while retaining acceptable sample sizes. Additionally, statistical weighting assured almost perfect identity of gender distributions in corresponding sedentary and sojourner samples with no changes to the overall sample size. To increase similarity and representativeness of all samples even further, I included only data obtained from sedentary participants born and raised in the country they participated in, and with a level of formal education equal to a high school graduate or university student, whenever the datasets allowed for such a distinction. For the US sample, I additionally weighted members of different ethnicities in a way that assured that the adjusted sample composition closely resembled the mean ethnic composition of the general US student population.[44] The

[43] Data for the German / Japanese / US versions of the BFI was extracted from the German dataset of the International Sexuality Description Project 2 (ISDP2) provided by Prof. Jens B. Asendorpf, Humboldt University of Berlin, provided by Prof. Osamu Fukushima, University of Niigata, Japan (personal correspondence on June 13th, 2007), and provided by Prof. Oliver P. John, University of California at Berkeley, USA (personal correspondence on September 25th, 2011), respectively. Data for the German / Japanese / US versions of the PVQ-40 was provided by Prof. Johannes Herrmann, University Giessen, Germany (personal correspondence on November 29th, 2011), by Prof. Shalom Schwartz, Hebrew University of Jerusalem, Israel (personal correspondence on December 3rd, 2011), and by Dr. Susannah Paletz, University of Pittsburgh, USA (personal correspondence on December 4th, 2011), respectively.

[44] Most of the datasets were typical university student samples anyway. The two exceptions were the samples provided for the German and US versions of the BFI. While the German sample allowed for the exclusion of cases with a total length of formal education of less than 13 years (e.g. participants who had not finished high-school), parameters allowing for such a distinction were not available in the US dataset. Likewise, the US dataset did not provide any information on gender distribution, which prevented a possible match on this variable. Another unexpected problem arose with the PVQ sample of US students, as it contained an astonishingly high number of participants born outside the US (27,6%), and an even more extreme amount of Asian Americans (42.3%). Since a) similarity and comparability of all samples was crucial for this study, b) both the Japanese and German samples could reasonably be assumed to contain only a very limited amount of first-generation immigrants and ethnic minorities, and c) I was primarily interested in personality development during a first-time acculturation experience, I decided to eliminate all foreign-born participants from the US dataset. Each ethnic group was then weighted in a way that

differences between the national means for each country combination as estimated from these sedentary self-ratings are included in Table 3, while additional information on the corresponding sedentary sample sizes, means, and standard deviations is provided in Table G1 in the appendix. Finally, overall estimates for the "cultural distance" between national mean personality trait and values levels (ΔBFI and ΔPVQ) based on national self-rating means were once again calculated by averaging across the absolute difference estimates for each instrument subscale.[45]

Agreement between sojourner ratings and national mean self-rating differences. A cursory look at Table 3 immediately reveals that there was little agreement between the average sojourner ratings and the differences calculated from national self-rating means, even though all samples were very closely matched on age, gender, education, and ethnicity. While a mismatch in the absolute magnitude of estimates could still be explained by scale format discrepancies between the instrument versions used in each case (see method section), the observed sign inversions (e.g. for Agreeableness, Conscientiousness, Benevolence, Hedonism, Achievement and Power in the estimates for the Germany/Japan combination) does not allow for such a simple interpretation.

In order to quantify my observations, I used a series of 3 (country combinations) * 2 (instruments) Pearson correlations to examine agreement between both types of country difference estimates across all subscales of either the BFI or the PVQ. As can be seen in Table 4 and Figures 8 and 9, correlations were not only decidedly low, but in some cases even negative. In other words, the alleged cultural differences calculated from national self-rating means in non way matched the first-hand experience of sojourners participating in this study.

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assured that their influence on the means of the total sample was in line with their overall representation in the general US student population. The final weighted US sedentary sample for the PVQ contained 68.6% Caucasians, 7.8% Asians, 13.7% African Americans, 5.9% Hispanics and 3.9% participants of unspecified or mixed ethnicity, which were percentages closely fitting the national average for college students reported by the US Department of Education at the time this dissertation was written (National Center for Education Statistics, 2011).

[45] For the BFI, the estimated "cultural distance" between Japan and the US was larger than the one between Germany and Japan, which in turn was larger than the estimated difference between Germany and the US. For the PVQ, however, Germany was estimated to be just as different from the US as Japan, with the largest difference separating Germany and Japan.

Table 4

National Mean Personality and Value Endorsement Differences: Agreement Between Paired Sojourner Groups, Transitivity of Sojourner Ratings, and Agreement Between Averaged Sojourner Ratings and Estimates Based on National Self-Rating Means

Scale	Association examined	Cultural difference examined [a]						Mean across country combinations	
		Germany / Japan		Germany / US		Japan / US			
		r_{ICC}	$r_{Pearson}$	r_{ICC}	$r_{Pearson}$	r_{ICC}	$r_{Pearson}$	r_{ICC}	$r_{Pearson}$
BFI	Agreement between average sojourner ratings and estimates based on national self-rating means	-	.20	-	-.56	-	-.19	-	-.18
	Agreement between paired sojourner groups	.79*	.80†	.87**	.90*	.89**	.88*	.85	.86
	Transitivity of sojourner ratings	.77*	.74	.70†	.84†	.92**	.96**	.80	.85
PVQ	Agreement between average sojourner ratings and estimates based on national self-rating means	-	.26	-	.40	-	.25	-	.30
	Agreement between paired sojourner groups	.89***	.91***	.90***	.90***	.96***	.96***	.92	.92
	Transitivity of sojourner ratings	.91***	.96***	.79**	.81**	.97***	.99***	.89	.92

Notes. r_{ICC} = Single measures intraclass correlation coefficient; $r_{Pearson}$ = Pearson correlation coefficient; [a] For the analysis of transitivity, this designates which cultural difference was directly rated; † $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

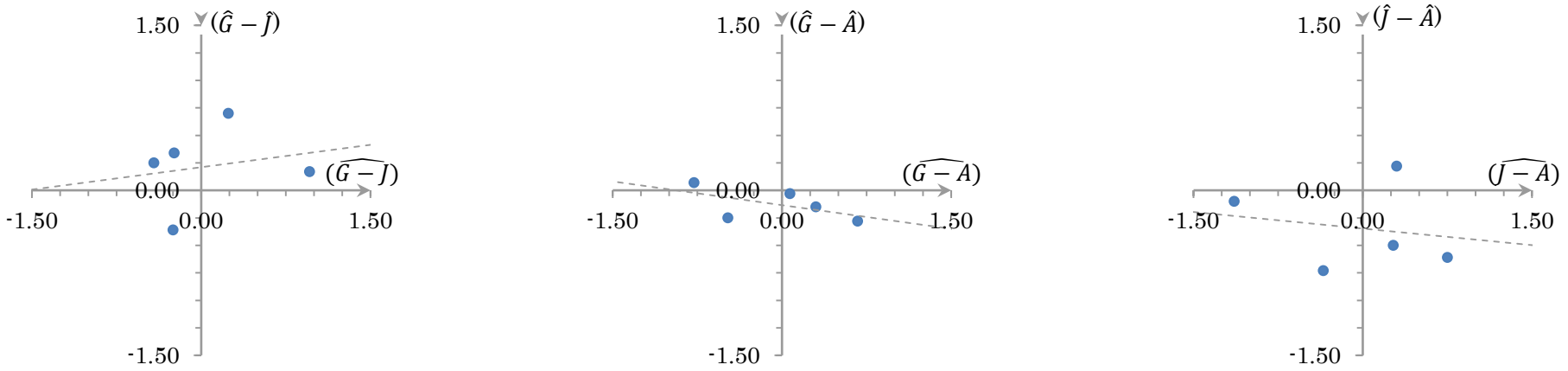

Figure 8. Correlation between average sojourner difference ratings and difference estimates based on national self-rating means for the BFI subscales. E.g. $(\widehat{\mathrm{G}-\mathrm{J}})$ = sojourner rated difference Germany/Japan; $(\hat{\mathrm{G}}-\hat{\mathrm{J}})$ = difference estimate calculated from the respective national self-rating means.

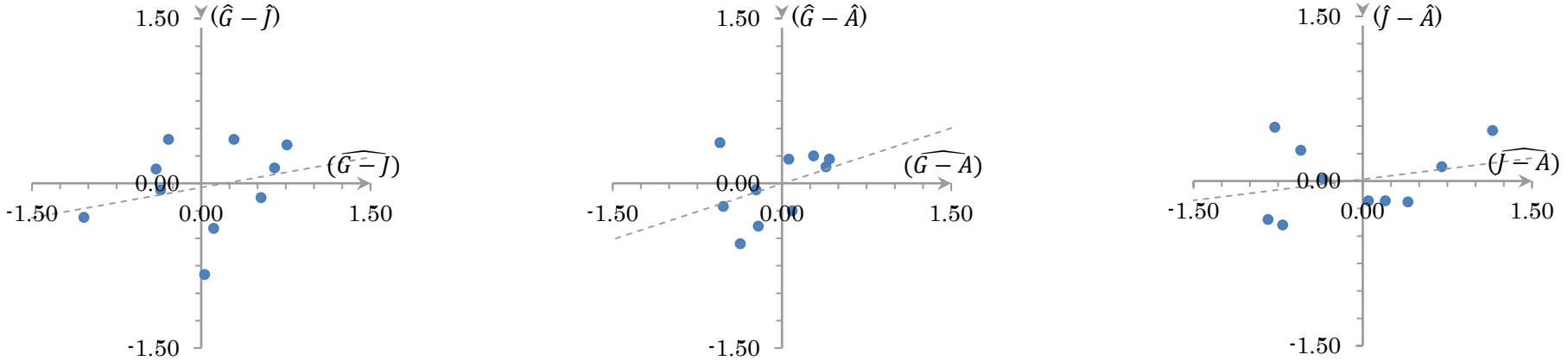

Figure 9. Correlation between sojourner difference ratings and difference estimates based on national self-rating means for the PVQ subscales. Abbr. see Fig. 8.

Agreement between paired sojourner groups. While the discrepancy between cultural difference estimates based on national self-rating means and direct sojourner ratings was quite clear-cut, it was still necessary to corroborate the validity of the latter with additional statistical evidence. My first approach was to examine whether paired sojourner groups traveling between the same two countries in opposite directions (e.g., Americans in Germany and Germans in the US) actually estimated the respective cultural differences in the same way.

To allow for a direct comparison with the previous section, I first calculated a series of 3(country combinations)*2(instruments) Pearson correlations between the ratings of each group in a pair across the subscales of either the BFI or the PVQ. As displayed in Table 4 and Figures 10 and 11, the consensus between each pair of difference ratings was very high across all country combinations.

Since all culture comparison versions of the BFI and the PVQ shared the same scale format, absolute agreement between paired groups could also be estimated with a series of intraclass correlations. In contrast to simple Pearson correlations, intraclass correlations take into account variations in the means of all ratings provided by each group under observation, and thus allow for a comparatively stricter assessment of overall congruence.[46] As before, the correlation between paired difference ratings was very high for both instruments and all three country combinations.

Considering the small number of cases (here: the number of subscales of an instrument) and the problematic nature of some of the PVQ's items (see method section), results were surprisingly unanimous: after several months of experience with their host culture environment, participants traversing the same cultural gap in opposite directions came to perceive the respective host/origin country differences in a very similar way, regardless of the specific direction of their sojourn, regardless of the country combination examined, and regardless of the exact statistical method used for analysis.

[46] Since the culture comparison versions of the BFI and the PVQ also use the same scale format, calculation of an overall intraclass correlation including all items from both instruments and all sojourner group pairs could also be justified. This alternative approach led to a similarly high correspondence estimate, but is not further discussed in this paper

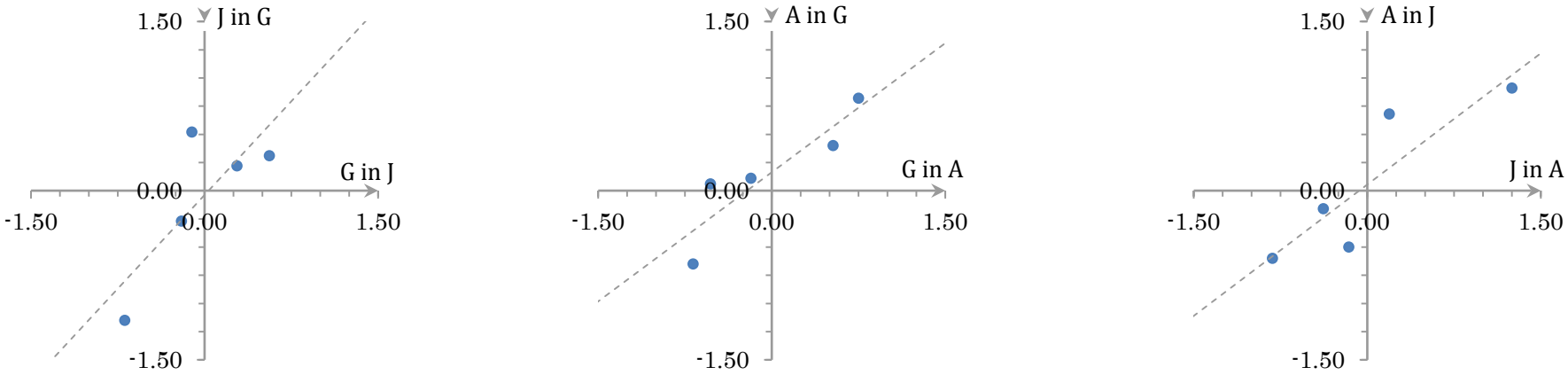

Figure 10. Correlation between host/origin culture difference ratings for the BFI subscales by paired sojourner groups. G = Germans/Germany; J = Japanese/Japan; A = Americans/US; e.g., G in J = Germans in Japan.

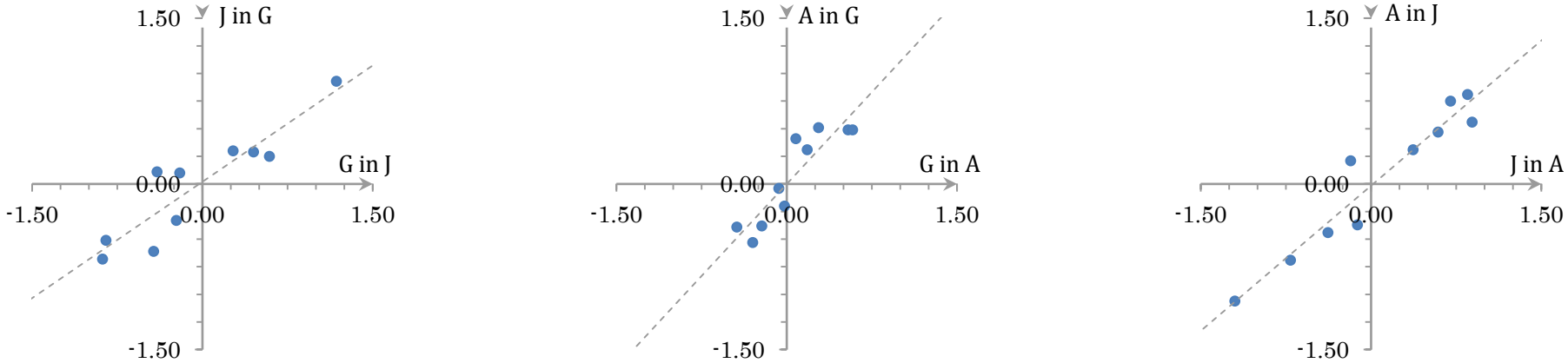

Figure 11. Correlation of host/home culture difference ratings for the PVQ scales by paired sojourner groups. Abbr. see Fig. 10.

Sojourner agreement across country combinations. The special triangular constellation of my study also allowed me to assess the overall consistency of the sojourner-rated cultural differences across individual country combinations by examining the degree of their transitivity. As this approach is not commonly utilized in the psychological context, the underlying reasoning may warrant further explanation.

Mathematically, any set of differences between two cultures can be described as a multidimensional vector, whose dimensionality reflects the number of cultural characteristics under observation. The left side of Figure 3 illustrates this for two cultures A and B which differ in their relative mean population levels of latent dimensions X by magnitude x, and in their relative mean levels of dimension Y by magnitude y. For this two-dimensional case, it can be said that x and y form the sides of a right triangle, and the vector of differences between the two cultures ($\overrightarrow{AB}$) its hypotenuse.

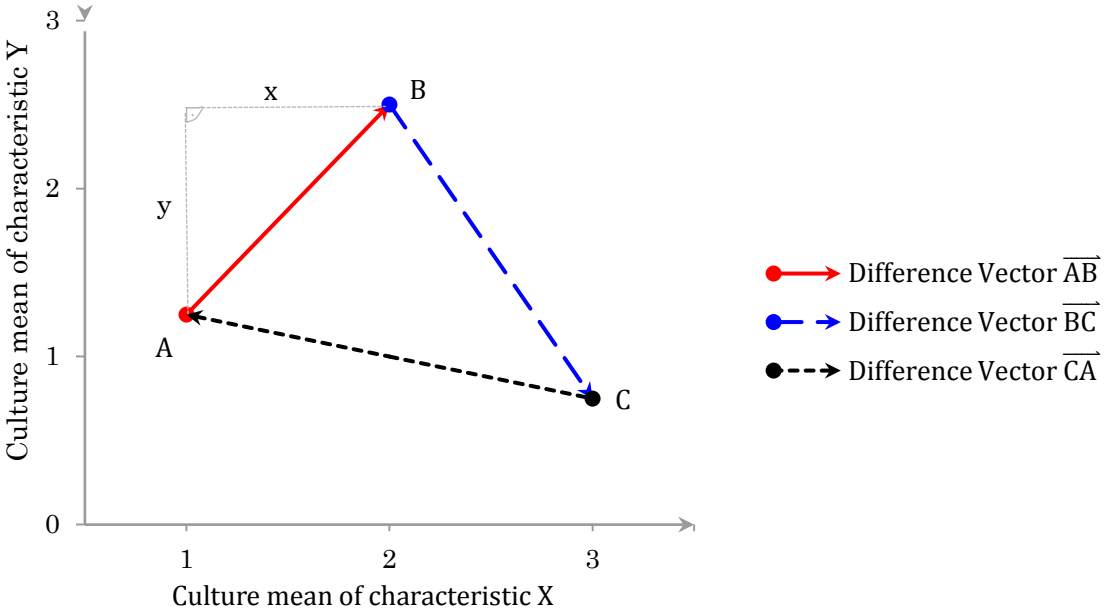

Figure 12. Illustration of transitivity between ratings of cultural difference.

Transitivity on the ordinal level would mean that for all cultures A, B, C and all characteristics X, Y under observation the statements $(X_A > X_B) \wedge (X_B > X_C) \Rightarrow (X_A > X_C)$ and $(Y_A > Y_B) \wedge (Y_B > Y_C) \Rightarrow (Y_A > Y_C)$ are always true. For the three countries

examined in the present study, this was the case for all 15 BFI and PVQ subscales.[47]

However, it is also possible to examine transitivity on the metric level.[48] In the example displayed in Figure 3, perfect transitivity between individual estimates for the differences between cultures A, B, and C is achieved when the associated difference vectors $\overrightarrow{AB}, \overrightarrow{BC}$, and $\overrightarrow{CA}$ constitute a closed loop.[49] As all vectors in a closed loop necessarily add up to zero, this automatically implies that for each culture in such a loop, its vector of differences from each other culture in the loop can directly be calculated as a combination of the two remaining difference vectors in the loop (e.g., $\overrightarrow{AB} = -[\overrightarrow{BC} + \overrightarrow{CA}]$). The critical point in the current context is that the reverse logic also applies: Whenever one difference vector can be calculated as a vector combination of two others, it necessarily follows that the three difference vectors can be arranged in a closed triangle, which in turn implies transitivity between the difference ratings for each individual country combination.

I used this discovery to formulate a proxy test for transitivity between the sojourner-rated cultural differences across individual country combinations. For this, I first complemented each of the direct sojourner ratings for the difference between two countries in the subscales of the BFI and the PVQ with an "indirect" estimate calculated from the corresponding rated differences of both countries from the third (e.g., the vector of direct sojourner ratings for the difference $\overrightarrow{AB}$ was complemented by an indirect estimate of the same difference vector based on a vector combination of the direct sojourner ratings for the differences $\overrightarrow{BC}$ and $\overrightarrow{CA}$; see above). I then calculated the intraclass correlations between the direct and indirect difference estimates for each country combination across all subscales of either the BFI and the PVQ. Following the logic described earlier in this section, the size of each of these

[47] Although not a statistical test in the traditional sense, the likelihood of this result under the assumption that difference ratings across the three host/origin country combinations were actually random is $1/2^{15,}$ which amounts to roughly a .003% chance.

[48] While rank order transitivity describes a constellation where individual rank order differences between all entities under observation can be considered elements of a common ordinal scale, metric transitivity describes a constellation where individual metric differences between these entities constitute elements of a common metric scale. In other words, metric transitivity implies that it is always possible to calculate the difference between two points on the common scale from the respective differences of each point from a third.

[49] This principle can be extended to any number of cultures under observation. The general rule of metric transitivity between any number of difference ratings is that it is always possible to combine unique difference vectors (no duplicates or inversions) in a closed loop.

intraclass correlations directly reflects the congruence between direct and indirect difference estimates,[50] and, as such, the degree of transitivity between the sojourner-rated cultural differences across individual country combinations. As for both the BFI and the PVQ subscales estimates for the degree of transitivity slightly varied depending on which difference in the triangle of countries was directly or indirectly estimated, I also calculated the respective average as the best overall estimate. Corresponding intraclass correlation coefficients, as well as the results of additional analyses based on simple Pearson correlations were included in Table 4, while a graphical representation of the association between direct and indirect estimates is provided by Figures 13 and 14.

National differences in mean personality trait and value endorsement levels: Summary Overall, the results presented in this section clearly indicated that sojourner rated cultural differences were remarkably consistent not only across paired sojourner groups travelling between the same countries in opposite directions, but also across country combinations, even though the ratings for each individual difference were obtained from completely independent participant samples. Conversely, there was virtually no correlation between sojourner ratings and alleged cultural differences as calculated from national self-rating means. The far-reaching implications of these results will require further discussion in a dedicated section later.

[50] E.g., a resulting intraclass correlation of 1 would indicate that the differences calculated with both methods are exactly the same for the BFI or PVQ subscales under observation. Since this would also logically imply that the relation $\overrightarrow{AB} + \overrightarrow{BC} = \overrightarrow{AC}$ is true, it would also prove perfect metric transitivity between the three (independently obtained) cultural difference ratings.

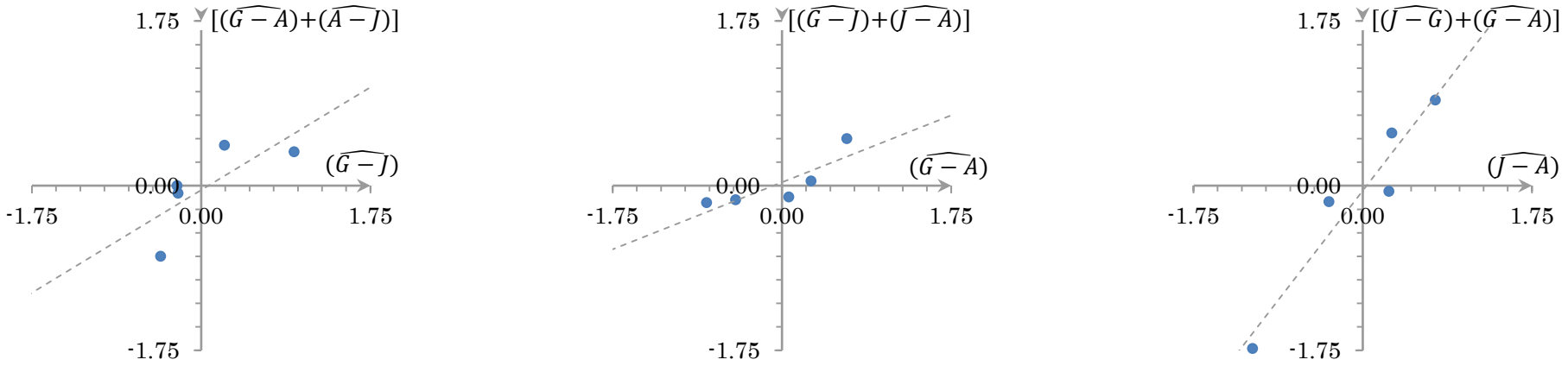

Figure 13. Correlation between directly and indirectly estimated host/origin culture differences for the BFI subscales. E.g. $(\widehat{G-J})$ = direct estimate for the difference between Germany and Japan; $[(\widehat{G-A})+(\widehat{A-J})]$ = indirect estimate for the same difference as calculated from direct estimates for the differences Germany/US and US/Japan.

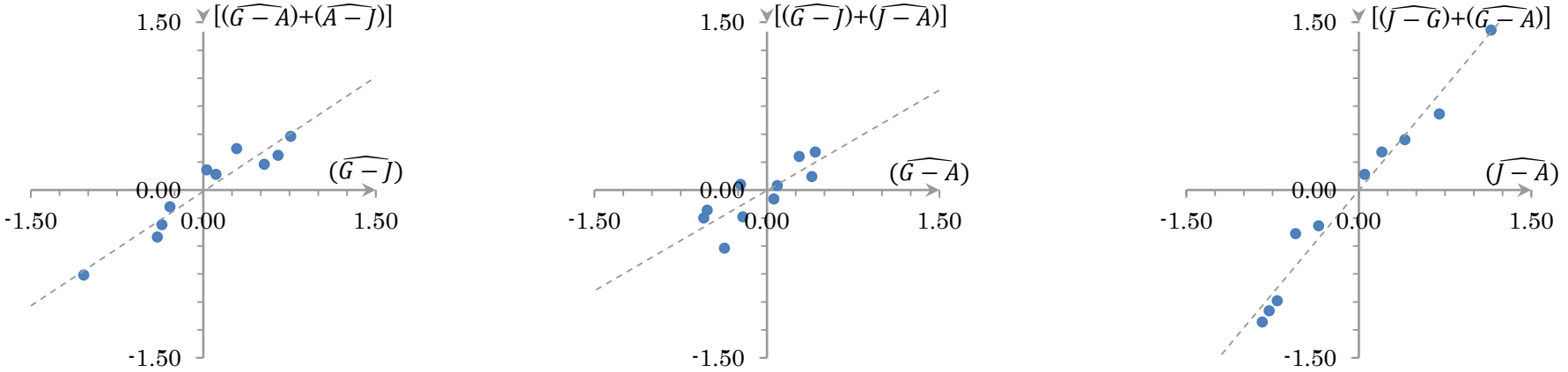

Figure 14. Correlation between directly and indirectly estimated host/origin culture differences for the PVQ subscales. Abbreviations see Fig. 13.

Sojourner Personalities and Personal Values

General trends. In order to analyze the evidence for pre-sojourn differences between sojourners and their sedentary peers at home, I first calculated a series of separate two-sample t-tests for each host/origin country combination and BFI/PVQ facet. In each test, raw sojourner self-ratings at T1 (roughly one month prior to departure; see Table 1) were compared to the self-ratings of a sedentary peer group of similar age, gender, education and ethnic composition in the respective origin country (see Table G1 in the appendix).

After this initial analysis, I standardized (z-transformed) the BFI and PVQ subscale scores of each participant according to the means and standard deviations observed in the matched sedentary peer group. This allowed me to directly interpret the standardized BFI and PVQ values of a sojourner as personal deviations from the respective origin culture average, scaled in multiples of the standard deviation of average sedentary peers back home (Glass's Δ).[51] Results of this analysis, including the case numbers for each sojourner group as well as the observed means and standard deviations after aforementioned standardization are detailed in Table 5.

Even though the number of available cases for the Japanese and US sojourner samples was limited, above analysis revealed some important findings. Despite a natural variance in significance levels, there was a universal trend towards relative high self-rated agreeableness (mean group $\Delta A = .28$) and self-direction (mean group $\Delta Sd = .39$), as well as comparatively low levels of neuroticism (mean group $\Delta N = -.44$) and security orientation (mean group $\Delta Sc = -.47$) among sojourners participating in this study. This arguably is in line with the common image of sojourners as independent-minded and resilient adventurers. Differences in the other personality and values domains, however, were less clear-cut. Obviously, some of the differences between sojourner and their matched sedentary samples were simply too small to reach customary levels of significance. There were, however, several cases where this simple explanation was not sufficient to account for the observed mixed pattern of significances across sojourner groups.

[51] See footnote 22.

Table 5

Means, Standard Deviations and Statistical Significance of Sojourner Pre-departure Deviations From Home Country BFI and PVQ Means

	Germans in Japan ($n = 78$)		Germans in the US ($n = 148$)		Japanese in Germany ($n = 23$)		Japanese in the US ($n = 14$)		Americans in Germany ($n = 37$)		Americans in Japan ($n = 20$)		Group Mean (N=6)
Scale	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*
E	-.12	.89	.26***	.84	.15	.92	.23	1.13	-.42*	.92	-.79***	.85	-.12
A	.14	.88	.39***	.84	.36†	.71	.48*	.56	.18	.58	.13	.88	.28
C	.57***	1.00	.80***	.86	.39	.99	-.16	.76	.41	.74	.01	.87	.34
N	-.30**	.91	-.52***	.84	-.60**	.65	-.19	1.09	-.47**	.81	-.55**	1.00	-.44
O	-.23*	.93	-.28***	.86	.75**	.99	.10	.79	.05	.82	.04	.92	.07
Co	.34†	1.12	-.06	1.21	-.42†	1.02	-.17	1.27	.30	.77	.34	.74	.05
Tr	-.22	.94	-.18	.92	.12	1.14	-.50†	1.09	-.06	.69	.08	.93	-.13
Be	-.54**	1.17	-.43*	1.02	-.13	.93	-.20	.84	.23	.88	-.04	1.09	-.19
Un	-.06	.85	-.26†	.84	.38†	1.04	.29	1.13	.35*	.73	.48*	.92	.20
Sd	.50*	1.42	.44*	1.31	.52*	1.26	.57†	1.34	.15	.82	.18	1.18	.39
St	.19	1.09	.36†	1.17	.00	.94	.82**	.83	.24	.99	.04	1.19	.28
He	-.47*	1.32	-.28	1.23	-.13	1.07	.38	1.24	-.47*	1.20	-.17	1.14	-.19
Ac	.76***	1.28	.94***	1.13	.00	.96	.20	.84	-.02	1.09	-.37	1.29	.25
Po	.25	.87	.29*	.85	-.43†	.87	-.49†	.98	-.58**	.95	-.67**	1.15	-.27
Sc	-.63***	.94	-.57***	.98	.04	1.23	-.73**	.84	-.54**	.80	-.39	1.13	-.47

Notes. Scale abbreviations see Table 3; † $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Differences between sojourner groups. While prospective German visitors of the US rated themselves as comparatively high in extraversion, the opposite was true for Americans preparing for a journey to Germany. Likewise, Japanese participants going to Germany reported relatively high personal levels of Openness, while Germans travelling in the other direction actually rated themselves as less open-minded than their origin country average. Personal achievement, on the other hand, seemed to be uniquely important for German sojourners, with mean self-ratings more than a half standard deviation above the norm; but no such tendencies were observed among Japanese or American participants. Finally, the strong power and authority orientation of Germans in the US, and a similar trend for Germans in Japan was exactly inverted in both the Japanese and US samples, which rated this value about half a standard deviation lower than the respective national average.

Due to the large number of separate tests, some of these findings may well be the result of chance sampling fluctuations.[52] Taken together, however, they make it hard to defend against the impression that sojourners - at least in regard to select personality traits and values – do not just constitute a peculiar subgroup within the general population, but also differ from each other according to their respective countries of origin and destination. These preliminary results encouraged me to examine in more detail a possible explanation.

Overlap of sojourner and host culture characteristics. My original hypothesis concerning the pattern of results described in the previous section was, that the decision to sojourn in a specific country was at least partially influenced by a tendency of sojourners to seek out host cultures perceived to be in line with their own personal ethics, guiding principles, and social customs. In statistical terms, I expected a positive correlation between the deviation of each sojourner group from the origin country mean, and the associated sojourner-rated country-level difference between host and

[52] There is a high probability that some of the significant t-test results were actually mere products of Type I (α) error accumulation. However, it is the overall pattern of results, and not individual significances for a single group or measure that constitute the main focus of interest in the present context; consequently, I actively decided against a correction of significance levels for multiple comparisons. It must also be mentioned that some of the differences between sojourner groups (e.g., between the self-ratings of extraversion for Germans in the US and Americans in Japan) retained their statistical significance even after the most conservative Bonferonni-correction possible, an adjustment of α to .05/60 (total number of separate t-tests).

origin cultures in each of the BFI and PVQ facets.[53] As this assumption equally applied to all sojourner groups; and since the z-transformed BFI and PVQ self-ratings were already adjusted for differences in the means and standard deviations between national groups, I was able to base the initial overall analysis on the complete dataset of sojourners who had participated in the pre-sojourn (T1) questionnaire ($n = 330$).

Beginning with a group-level focus, I first calculated the spearman[54] correlations between the (across groups) rank ordered mean deviations of each of the six sojourner groups from their origin country means in each of the BFI and PVQ subscales and the associated rank ordered estimated cultural differences between host and origin countries. While all major correlations observed in this group-level analysis were indeed positive (see Table 6), the small effective number of cases ($N = 6$) did not provide for a meaningful estimate of statistical significance. Hence, I continued with an examination of correlations at the individual level, that is, the correlations between a sojourner's personal pre-sojourn deviation from the origin country mean, and the associated estimated cultural difference between host and origin country. In order to make sure that the results were not solely driven by the German majority, I weighted each participant by the inverse of the case numbers in the respective sojourner group, keeping overall participant numbers constant.[55] This time, a fair amount of correlations emerged as statistically significant, and most of them remained so even after a very conservative column-wise Bonferroni correction of significance levels (see Table 6). With knowledge of how sojourners had rated the difference between two countries, it was possible to predict a medium amount of pre-sojourn variance in Extraversion, small to medium amounts of the variance in Openness, Conformity, Universalism and Achievement, as well as some of the variance

[53] As described above, the difference between the mean trait levels exhibited by inhabitants of two cultures could also have been estimated from national self-rating means. However, there are two compelling reasons to use the sojourner ratings instead. First, as previously noted, national self-rating means are invariably contaminated by the Reference Group Effect described by Heine (Heine et al., 2002). Second, if self-selection to specific host cultures actually occurred, it is reasonable to assume that these decisions were guided by the cultural specifics sojourners actually perceived, rather than differences artificially calculated from national self-rating means.

[54] Spearman correlations were used instead of Person correlations for the group-level analysis because they were less susceptible to distortion by extreme outliers, which become more problematic with lower effective cases numbers.

[55] Analyses were also repeated with unweighted samples. Apart from slight changes in the coefficient values and significance levels, the overall pattern of correlations was very similar.

in the Stimulation, Hedonism and Power dimensions of the PVQ.

Table 6

Correlations Between Pre-Departure BFI and PVQ Deviations From Origin Country Means and Associated Host/Home Country Differences.

	Group-level Spearman correlation ($N = 6$)	Person-level Pearson correlation ($n = 330$)
Scale	$r_{Spearman}$	$r_{Pearson}$
E	.77	.34***[c]
A	-.03	-.05
C	-.03	-.04
N	-.09	-.01
O	.71	.20***[c]
Co	.94	.26***[c]
Tr	.26	.07
Be	-.14	-.04
Un	.77	.23***[c]
Sd	.54	.08
St	.43	.14*
He	.49	.16**[a]
Ac	.60	.23***[c]
Po	.60	.11*
Sc	.26	.00

Notes. Scale abbreviations see Table 3; $^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; Significances after columnwise Bonferonni-correction for multiple comparisons: $^{a}p < .10$; $^{b}p < .05$; $^{c}p < .01$.

The overall pattern was quite unambiguous. There was indeed a positive overlap between the way sojourners described their own personalities and values prior to departure, and the estimated personality and values differences between their host and origin cultures. Evidently, even in samples of primarily academic sojourners, perceived characteristics of the host culture play a major role for the decision to sojourn abroad.

Development of Personality and Value Endorsement Self-Ratings Throughout the Sojourn

After establishing a direct link between host culture and sojourner characteristics, the logical next step was to shift the focus to subsequent developments in the latter while abroad. However, measurement occasions for the BFI and the PVQ were split between the pre-sojourn, sojourn and post-sojourn phases, and since I planned for a parallel examination of factors beyond mere time-dependency, the final analysis of changes in participant self-ratings was prone to include a non-trivial number of predictor variables. In order to safeguard against the associated threat of unstable results, I decided to begin with a series of very basic analyses, and successively increase the number of parameters under observation in subsequent steps. As each "later" analysis was a direct extension of its predecessor, this approach allowed me to confirm the stability of each result throughout different levels of complexity.

General changes during the T1/T2 transition. My stepwise analysis began with the overall comparison of T1 (pre-sojourn) and T2 (first measurement abroad) BFI and PVQ scores across all sojourner groups. A total of 227 participants had provided sufficient data for a paired samples t-test, the results of which are displayed in Table 7. Since positive values in the $\Delta_{T1\text{-}T2}$ column signify higher trait / value endorsement levels before the sojourn, it can be concluded that overall, sojourners participating in the study experienced a small [56] but significant drop in self-perceived conscientiousness, openness and benevolence orientation, a marginally significant drop in self-reported extraversion, and a marginally significant increase in the endorsement of security as an important value between the pre-sojourn stage and the end of their first month abroad. In preparation of a more complex analysis of the complete pattern of changes throughout the sojourn, I also examined the differences between T1 and T2 self-ratings with a hierarchic linear modeling procedure (HLM; Raudenbush & Bryk, 2002).[57]

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[56] As before, the differences between the T1 and T2 self-ratings can be interpreted as a Glass Δ, standardized on the standard deviation of the sedentary population in a participant's home country.

[57] As the multi-level equivalent of linear regression, HLM not only allows for the simultaneous estimation of the direct effects of a set of predictors on an individual outcome, but also for the inclusion of predictor variables on a hierarchically higher level which are descriptive for a whole group of individual observations. A commonly cited example is the analysis of developments in the academic performance of students. Here, individual observations across several weeks are

For this, I cleared the sojourner dataset of all measurements obtained outside the T1 or T2 participation periods, and used the software HLM 6 (Raudenbush, Bryk, & Congdon, 2004) to construct a series of simple 2-level models in which measurement occasions were nested within participants. On level-1 of each of these basic models, a participant's standardized personality/value endorsement score deviation ΔP from the origin country mean in a BFI or PVQ subscale was predicted by an intercept parameter (π_0), and a slope parameter (π_1) multiplied by a binary indicator (b) for whether the measurement in question was obtained before the sojourn or while abroad; *e* denotes a random residual.

Structure of the basic level-1 equations:

$$\Delta P = \pi_0 + \pi_1 * b + e$$

The level-2 equations at first contained no predictors beyond intercept parameters (β_{00} and β_{10}); for mathematical reasons,[58] only the equation associated with the level-1 intercept was allowed to vary randomly between participants (residual r_0).

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statistically nested within students, which in turn are nested within classrooms or schools. Since HLM allows for the simultaneous estimation of the effects of predictors on all levels of data aggregation, it allows for a more comprehensive insight into the complex dependencies between variables than a simple linear regression could hope to achieve. In the context of this study, an additional distinctive feature of HLM was of prime importance: While it conveniently makes use of all available data to estimate effects, including data from cases with missing or incomplete questionnaires, the estimation of change slope parameters is entirely based on an aggregation of intrapersonal trends. Simplified, this means that each individual contributes to the estimation of a change slope only as long as both pre- and post (and possibly intermediary) measurements exist for the interval under observation. Since the development of overall means is completely irrelevant for this method of parameter estimation, the main problem of the statistical association between selective drop-out rates and sojourner personality is effectively circumvented.

[58] HLM needs a certain number of degrees of freedom for parameter estimation, which naturally limited the number of random residuals that could be included in the simple T1/T2 and the later T4/T5 models. Further examinations revealed that the concrete choice of which of the two level-2 residuals was selected for omission had only negligible influence on parameter estimates.

Structure of the basic level-2 equations:

$$\pi_0 = \beta_{00} + r_0$$
$$\pi_1 = \beta_{10}$$

Due to the special z-transformation of sojourner self-ratings (see method section), estimates for parameter β_{00} can directly be interpreted as perceived personal deviation from the origin country average in a BFI or PVQ subscale during the first month abroad, scaled in origin country standard deviations. While not necessarily the same as the pre-sojourn values reported in Table 5, results for this analysis confirmed that overall, participants in the study tended to describe themselves as significantly more agreeable, conscientious, self-directed, and interested in stimulation and personal achievement than their average home-country peers even after arrival in their host countries (positive values for parameter β_{00}). These trends were mirrored by comparatively lower levels of neuroticism, traditionalism, benevolence, hedonism and security-orientation (negative values for parameter β_{00}). Overall, results were once again in general agreement with the prototypical image of stalwart and independent-minded overseas adventurers. Curiously, however, there was also a significant trend towards lowered levels of openness (as operationalized in the BFI) at the beginning of the sojourn.

Since the dataset used in this HLM analysis was previously purged of all irrelevant entries, parameter β_{10} can directly be interpreted as an estimate of the change in self-reported personality trait / value endorsement scores between the T1 and T2 measurements; in other words, this parameter statistically estimated the observed difference the preceding t-test was based on. Supporting the validity of parameter estimates, β_{10} always closely matched the associated $\Delta_{T1\text{-}T2}$ values of the associated t-test.

Table 7

Comparison of Parameter Estimates: T-test, HLM Model for the T1/T2 Transition, and Complete Time Dependency HLM Model

	t-test for the T1/T2 transition						HLM parameters estimates for the T1/T2 transition				HLM parameter estimates for the complete time dependency model							
Scale	M_{T1}	*SD*	M_{T2}	*SD*	$\Delta_{T1\text{-}T2}$	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{20}	*SE*	β_{30}	*SE*
E	-.08	.92	-.12	.86	.05†	.03	-.01	.05	.05†	.03	-.04	.04	.05*	.03	.14**	.06	.05	.04
A	.23	.83	.18	.81	.05	.04	.24***	.04	.06†	.04	.25***	.04	.05	.04	.03	.06	.03	.04
C	.63	.96	.54	.90	.09**	.03	.49***	.05	.09**	.03	.51***	.04	.07*	.03	.04	.06	.03	.03
N	-.48	.86	-.45	.86	-.03	.03	-.45***	.05	-.02	.03	-.47***	.05	.01	.03	-.10	.07	-.04	.04
O	-.21	.91	-.33	.94	.12***	.03	-.20***	.05	.12***	.03	-.22***	.05	.14***	.03	.23***	.06	-.06†	.03
Co	.12	1.13	.14	1.12	-.02	.05	.07	.06	-.02	.05	.04	.06	-.01	.05	-.17*	.08	-.02	.06
Tr	-.07	.90	-.02	.93	-.05	.04	-.11*	.05	-.06	.04	-.09†	.05	-.04	.04	.06	.08	-.11*	.05
Be	-.30	1.08	-.45	1.13	.15**	.06	-.46***	.06	.13**	.05	-.40***	.06	.11*	.05	.08	.08	.05	.06
Un	-.04	.89	-.08	.93	.04	.04	-.03	.05	.03	.04	.03	.05	.02	.04	.10	.07	-.07†	.04
Sd	.38	1.20	.41	1.21	-.03	.06	.45***	.07	-.03	.06	.38***	.07	.02	.06	.21*	.10	-.01	.07
St	.20	1.10	.25	1.13	-.05	.05	.34***	.06	-.04	.05	.36***	.06	-.04	.05	.02	.09	.00	.05
He	-.38	1.22	-.36	1.16	-.02	.06	-.29***	.06	.00	.06	-.30***	.06	-.01	.06	-.12	.10	.14*	.06
Ac	.52	1.25	.49	1.19	.03	.05	.51***	.06	.06	.05	.47***	.06	.07	.05	-.11	.09	.03	.05
Po	.05	.94	.02	.94	.03	.04	-.02	.05	.04	.04	-.06	.05	.04	.04	.08	.06	.05	.04
Sc	-.46	.97	-.37	1.05	-.09†	.05	-.40***	.06	-.11*	.05	-.42***	.06	-.12*	.05	-.08	.08	.02	.05

Notes. Scale abbreviations see Table 3; M_{T1}, M_{T2} = sojourner mean at T1 and T2; $\Delta_{T1\text{-}T2} = M_{T1} - M_{T2}$;

†$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

General development throughout the sojourn. The first expansion of the model was an inclusion of two additional slope parameters into the basic level-1 equation. Since the first one (π_2) was intended to estimate gradual changes in self-perception throughout the sojourn, it was multiplied by the number of years spent abroad in the host country at the time of measurement (t).[59] The second one (π_3) was related to changes between the final days abroad and the post-sojourn phase and paired with a dummy indicator (a) for whether a measurement was obtained after the participants had returned home.

Structure of the expanded level-1 equations:

$$\Delta P = \pi_0 + \pi_1 * b + \pi_2 * t + \pi_3 * a + e$$

The general structure of the level-2 equations remained largely unchanged; the only difference was their increased number, and the freedom to include a random residual in each (r_0 through r_3).

Structure of the expanded level-2 equations:

$$\pi_0 = \beta_{00} + r_0$$
$$\pi_1 = \beta_{10} + r_1$$
$$\pi_2 = \beta_{20} + r_2$$
$$\pi_2 = \beta_{30} + r_3$$

Since these expanded equations already adequately separated observations according to their respective timing, it was no more necessary to limit analysis to a special data subset. Consequently, all further analyses were based on the complete sample of participants who had completed at least one of the scheduled questionnaires ($n = 537$).

Once again indicating model stability, parameter estimates for the intercept (β_{00}) and changes between the pre-sojourn phase and the first measurement abroad (β_{10})

[59] For measurements obtained from sojourners before their departure, this variable was set to zero. For returnees, this value was truncated to the total length of the sojourn.

were remarkably similar to their counterparts in the simple T1/T2 models reported before, despite the obvious increase in model complexity, a slightly different definition of intercept location,[60] and although the composition of the sample used for estimation had considerably changed (see Table 7). Values of the new parameter β_{20} conceptually represent a linear approximation of the gradual change in a BFI or PVQ subscale associated with spending one full year abroad in the host country, standardized on the origin country mean and standard deviation of that subscale. Consequently, it can be concluded that overall, sojourners participating in this study showed a significant increase in self-reported extraversion, openness and self-direction, as well as a significant decrease in conformity throughout their sojourn abroad. Since parameter β_{30} reflects changes between the final month abroad and the first month back home, Table 7 also implies that participants experienced a small but significant drop in self-rated openness, traditionalism and universalism during the first weeks after returning to their origin countries, although some of these results possibly reflect chance associations. Interestingly, the perceived importance of hedonism, that is, the self-centered submission to pleasurable experiences, also showed a local peak during the post-sojourn period.

Differences between national groups. Above results already highlighted some interesting general trends for the total population of participants; however, this did not rule out differences between specific subgroups. As I was interested in the stability of parameter estimates across national groups, I decided to contrast results for the US and Japanese samples with those of the Germans majority, which was used as a baseline for reference. After confirming that there was indeed considerable between-person variance for each of the BFI and PVQ subscales ($p < .001$ in all cases), I included two additional parameters in each of the level-2 equations (β_{01} through β_{31}, and β_{02} through β_{32}), which were multiplied by a dummy variable indicating either Japanese (J) or American (A) origin of the participant.

[60] In the simple T1/T2 models, the intercept was set to the observed value at the T2 measurement occasion roughly one month after arrival abroad. Conversely, the intercept in the full time dependency model reflects the estimated outcome variable value at t=0, that is, immediately at the onset of the sojourn.

Structure of the origin country sensitive level-2 equations:

$$\pi_0 = \beta_{00} + \beta_{01}*J + \beta_{02}*A + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}*J + \beta_{12}*A + r_1$$
$$\pi_2 = \beta_{20} + \beta_{21}*J + \beta_{22}*A + r_2$$
$$\pi_3 = \beta_{30} + \beta_{31}*J + \beta_{32}*A + r_3$$

Results of these analyses for each of the BFI and PVQ subscales are displayed in Table 8. It is immediately obvious that parameter estimates were far from being homogeneous across national groups. Not only did the typical “sojourner personality” strongly differ according to the origin country of the participant, but also the trajectory of personality and value endorsement changes throughout the sojourn proved to be remarkably diverse. While these results already constitute a valuable reminder that overall trends for an international sample do not necessarily replicate across individual national groups, I decided to examine whether a common psychological mechanism could explained at least some of the observed variances.

Table 8

Development of Personality and Value Endorsement Across Sojourner Nationalities

	Parameter estimates for Germans (baseline)								Baseline deviation of the Japanese group								Baseline deviation of the US group							
Scale	β_{00}	*SE*	β_{10}	*SE*	β_{20}	*SE*	β_{30}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{21}	*SE*	β_{31}	*SE*	β_{02}	*SE*	β_{12}	*SE*	β_{22}	*SE*	β_{32}	*SE*
E	.10†	.05	.06†	.03	.22***	.06	.01	.04	-.21	.14	.17	.11	-.19	.17	.03	.14	-.50***	.11	-.09	.07	-.39*	.17	.15	.11
A	.26***	.06	.05	.04	.05	.08	.04	.05	.02	.11	.09	.09	.05	.12	-.13	.09	-.06	.11	-.03	.10	-.23	.20	.02	.11
C	.62***	.05	.10*	.04	.14	.08†	-.02	.04	-.39**	.13	-.10	.11	-.12	.15	.09	.15	-.20†	.12	-.15*	.07	-.67**	.22	.21*	.10
N	-.44***	.06	.00	.04	-.22**	.08	.01	.05	.21†	.13	-.20†	.11	.10	.16	.00	.16	-.27*	.12	.10	.09	.60**	.20	-.22†	.11
O	-.38***	.06	.15***	.04	.30***	.08	-.05	.04	.83***	.12	-.03	.09	-.24	.15	-.01	.12	.20†	.12	-.02	.08	-.26	.21	-.04	.10
Co	.02	.07	.02	.06	-.30**	.11	.02	.07	-.25†	.15	-.17	.15	.50*	.21	-.24	.21	.33**	.12	-.12	.12	.24	.22	-.03	.14
Tr	-.13*	.06	-.07	.05	-.02	.10	-.08†	.05	.06	.16	.07	.17	.38	.26	-.12	.27	.16	.11	.07	.09	.04	.20	-.04	.12
Be	-.53***	.08	.08	.07	.09	.10	.06	.07	.07	.14	.23	.15	.16	.17	-.45**	.17	.57***	.13	.07	.12	-.13	.21	.19	.14
Un	-.15**	.06	.01	.04	.25**	.08	-.15***	.05	.45**	.17	.09	.18	-.51*	.21	.34*	.14	.51***	.13	.07	.09	-.34†	.20	.24†	.12
Sd	.41***	.09	.06	.08	.22†	.13	-.03	.08	.24	.17	-.25	.17	-.19	.26	-.06	.23	-.34*	.16	-.08	.13	.10	.30	.17	-19
St	.41***	.07	-.06	.06	.02	.11	.02	.06	.14	.16	-.15	.15	-.11	.21	-.02	.15	-.30†	.16	.18	.15	.03	.27	-.10	.11
He	-.30***	.08	-.04	.07	-.17	.13	.18*	.07	-.13	.19	.47*	.19	.25	.26	-.12	.23	.07	.14	-.14	.15	.12	.22	-.16	.14
Ac	.79***	.08	.07	.06	-.03	.11	.00	.05	-.92***	.14	.09	.14	-.24	.18	.40*	.18	-.86***	.14	-.07	.10	-.32	.23	-.05	.11
Po	.16**	.06	.09*	.04	.14	.07†	.02	.04	-.35*	.14	-.31*	.14	-.32*	.15	.25	.16	-.84***	.13	-.11	.10	-.01	.23	-.06	.12
Sc	-.50***	.07	-.13*	.06	-.25*	.10	.09	.06	.52**	.19	-.10	.16	.33†	.20	-.15	.18	.05	.13	.10	.11	.54*	.22	-.24†	.14

Notes. Scale abbreviations see Table 3; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Prediction of developments by host/origin country differences. One plausible assumption was that sojourners did not only choose their host cultures based on a perceived fit with their own characteristics, but that each host culture environment in turn also differentially encouraged or curbed the development of certain personality traits and values. In search of evidence for this systematic relationship between personal development and host culture characteristics, I replaced the origin country specific dummy variables used in the previous section by the average sojourner-rated difference between host and home country in the respective outcome variable. In other words, I used average host/origin country difference ratings as a differential level-2 predictor for the development of a participant's associated personality trait or value endorsement scores throughout the sojourn.

Each level-2 equation now estimated the size of a level-1 parameter by combining an intercept (β_{00} through β_{30}) with a second parameter (β_{01} through β_{31}) multiplied by the sojourner-estimated host/origin culture difference $\Delta C_{(P)}$ between the national means of the outcome variable ΔP.

Structure of the cultural difference sensitive level-2 equations:

$$\pi_0 = \beta_{00} + \beta_{01}*\Delta C_{(P)} + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}*\Delta C_{(P)} + r_1$$
$$\pi_2 = \beta_{20} + \beta_{21}*\Delta C_{(P)} + r_2$$
$$\pi_2 = \beta_{30} + \beta_{31}*\Delta C_{(P)} + r_3$$

Providing yet another hint at the general stability of the HLM analysis, estimates for parameters that were already included in the simple time-dependency models were largely unaffected by the subsequent increase in model complexity (see Table 9. parameter estimates β_{00} through β_{30} in comparison to estimates in Table 7).[61]

[61] The observed small differences mainly stem from the fact that due to unequal case numbers in each sojourner group, the mean $\Delta C_{(P)}$ across participants is not necessarily zero, which leads to slightly different level-2 intercept estimates. This interpretation is corroborated by the fact these differences almost completely dissipated when the cultural difference estimates $\Delta C_{(P)}$ were grand mean centered on their overall mean across participants before their inclusion in the model (see Table G2 in the appendix).

Table 9

Prediction of Personality and Value Endorsement Development by Uncentered Host/Origin Culture Differences

Scale	L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{20}	*SE*	β_{30}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{21}	*SE*	β_{31}	*SE*
E	ΔC_E	-.05	.04	.05†	.03	.15**	.06	.05	.04	.20***	.05	.06*	.03	.02	.07	.03	.04
A	ΔC_A	.23***	.04	.07†	.04	.02	.06	.02	.04	.06	.10	-.05	.09	.03	.06	.04	.10
C	ΔC_C	.50***	.05	.05†	.03	-.03	.07	.05	.04	-.11	.08	-.08	.06	-.38**	.13	.10	.06
N	ΔC_N	-.48***	.05	.01	.03	-.07	.07	-.05	.04	-.14	.17	.17	.12	.54*	.24	-.14	.15
O	ΔC_O	-.16***	.05	.14***	.03	.23***	.07	-.05	.04	.97***	.25	-.04	.18	-.15	.33	.08	.23
Co	ΔC_{Co}	.04	.06	-.01	.05	-.18*	.08	-.04	.06	.20**	.07	.05	.06	-.19†	.10	.25**	.08
Tr	ΔC_{Tr}	-.10†	.05	-.04	.04	.07	.08	-.12*	.05	.14	.21	-.16	.17	-.37	.33	.29	.23
Be	ΔC_{Be}	-.41***	.06	.13*	.05	.09	.08	.04	.06	.26	.31	-.54†	.30	-.14	.35	.27	.33
Un	ΔC_{Un}	.13*	.06	.06	.05	.00	.09	.01	.05	.71***	.16	.13	.14	-.59**	.23	.43**	.14
Sd	ΔC_{Sd}	.38***	.07	.02	.06	.21*	.10	.01	.07	.01	.12	-.01	.11	-.05	.17	.27*	.13
St	ΔC_{St}	.36***	.06	-.04	.05	.02	.09	.00	.05	.10	.10	.00	.09	.03	.14	.02	.08
He	ΔC_{He}	-.31***	.06	-.02	.06	-.10	.10	.12*	.06	.05	.11	.19*	.10	-.06	.17	.23*	.11
Ac	ΔC_{Ac}	.39***	.06	.06	.05	-.11	.09	.00	.05	1.08***	.18	.02	.13	.17	.29	.21	.15
Po	ΔC_{Po}	-.10*	.05	.04	.04	.11	.07	.03	.04	1.38***	.26	-.10	.19	-.53	.38	.39†	.22
Sc	ΔC_{Sc}	-.41***	.06	-.12**	.05	-.10	.08	.02	.05	-.16	.15	.03	.12	-.44*	.22	.22	.15

Notes. Scale abbreviations see Table 3; ΔC_X = estimated host/origin culture difference in mean population levels of characteristic X; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Meanwhile, an analysis of the parameter estimates associated with cultural differences (β_{01} through β_{31}) revealed some interesting, while not entirely homogeneous patterns. A tendency of sojourners to seek out host cultures perceived to differ from their origin cultures in a similar way as they did themselves (that is, to search out host cultures that fit their own personality and values) was once again fully confirmed for extraversion, openness, conformity, universalism, achievement and power. For these subscales, higher sojourner self-ratings at the beginning of the sojourn were strongly associated with comparatively higher estimated host culture averages (positive β_{01}). The special outcome variable standardization also allowed for a convenient interpretation of the estimates for parameter β_{01}: for each of the BFI and PVQ subscales, this parameter directly represents the change in the standardized deviation of a participant's pre-sojourn self ratings from the mean of his home culture peers (ΔP) associated with one point of estimated cultural difference $\Delta C_{(P)}$ between host and home country. Overall, these results largely overlapped with those of the correlational analysis reported earlier in this dissertation (see Table 6).

Evidence for a link between changes in personality and value endorsement self-ratings during the T1/T2 transition and associated differences between host and home culture was limited. Significant effects were only observed for extraversion and hedonism; in both cases, the sign of parameter β_{11} implies a slight decrease in subjective self-ratings after transition into a host country where associated national means were rated to be comparatively higher than in the respective home country.

While not completely homogeneous either, evidence for an influence of host/home country differences on associated personality and value endorsement changes abroad was slightly stronger. Sojourners in host countries with comparatively high estimated national mean levels of conscientiousness, conformity, universalism, and security orientation showed a significant tendency towards successively decreasing self-ratings on these subscales (negative estimates for parameter β_{02}), while the trend for neuroticism was exactly inversed.

Finally, knowledge of the estimated cultural differences between the origin and destination countries of a sojourn allowed for the prediction of several shifts in associated PVQ self-ratings between the final weeks in the host country and the immediate post-sojourn phase. Participants returning from cultures whose inhabitants were estimated to be comparatively high in conformity, universalism,

hedonism, and power, showed a clear increase in the tendency to attribute these characteristics to themselves (positive estimates for parameter β_{31}), with similar trends for achievement and security barely missing customary levels of statistical significance.

Sojourner personality and its development throughout the sojourn: Summary. The initial overall analysis seemed to indicate that there are indeed a number of personality and value characteristics which separate sojourners from their sedentary peers at home. Likewise, it provided tentative evidence for common changes in personality and value endorsement levels associated with the time spent abroad and the crossing of cultural borders, even though their magnitude was limited in comparison to those reported by Back and colleagues (Back et al., 2012) or Zimmerman (2012). Subsequent origin country specific analyses revealed that most of these overall trends were in no way representative for all sojourner groups. In search for a possible explanation of the observed inconsistencies, estimated host/home culture differences in the outcome variable under observation were used as additional predictors for individual intercepts and change trajectories. A pre-departure fit between sojourner and host culture characteristics clearly emerged for six of the fifteen BFI and PVQ scales examined. Conversely, the attempt to predict subsequent changes in participant self-ratings by associated host/home culture differences revealed only a mixed and ultimately inconclusive pattern of associations, with one important exception: there was a clear tendency for former sojourners to attribute to themselves some of the host culture characteristics after their return home (observed for five of the ten subscales of the PVQ).

Acculturation as a Predictor for Sojourner Health and Life Satisfaction

As the acculturation questionnaire (FRAKK) was only provided while a participant was abroad in the host country, the following analyses were based exclusively on the data of sojourners who had participated in at least one of the four central chapters of the study (see Table 1; $n = 431$).

General trends. In order to investigate how each index of the FRAKK was related to other indicators of successful adaptation, its association with life satisfaction (SWLS) and psychosomatic health (GHQ) throughout the sojourn was analyzed with another

series of 2-level HLM models. On level-1 of each model, the GHQ and SWLS scores of a sojourner (H) were predicted by an intercept (π_0), and a slope parameter (π_1) multiplied by an acculturation indicator (a), which was in turn set to the sojourner's grand mean centered score in either the AK (host culture orientation), the HK (origin culture detachment) or the AI (overall acculturation) scale of the FRAKK at the time of measurement.[62] As usual, each level-1 equation also contained a random residual (*e*).

Structure of the basic level-1 equations:

$$H = \pi_0 + \pi_1 * a + e$$

The basic level-2 equations for the total sample at first contained no predictors beyond intercept parameters (β_{00} and β_{10}) and a random residual (r_0).

Structure of the basic level-2 equations:

$$\pi_0 = \beta_{00} + r_0$$
$$\pi_1 = \beta_{10}$$

These preliminary analyses already revealed a number of very interesting results (see Table 10). First, overall acculturation (AI) had a strong,[63] positive, and highly significant relation to both sojourner life satisfaction and psychosomatic health[64] across sojourner groups (parameter estimates for β_{10}). While this already provided preliminary evidence for the overall validity of the FRAKK, a separate analysis of its two subscales, host culture orientation (AK) and home culture detachment (HK) revealed another important fact: effects for the HK, while still significant for psychosomatic health, were considerably weaker than those for the AK.

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[62] Conceptually, the function of each acculturation indicator (a) thus is similar to the function of sojourn time (t) in the preceding analysis of personality development.

[63] Due to the scaling of the FRAKK (maximum possible range = 7-70, 7-70, and 14-140 for the AK, HK, and the AI, respectively) the small values of β_{10} may be misleading.

[64] The GHQ actually measures the number of symptoms a participant experiences at the time of measurement, so negative values of β_{10} indicate a positive relation between sojourner health and acculturation; see the corresponding entry in the instrument section.

Table 10

Influence of Acculturation on General Health (GHQ) and Life Satisfaction (SWLS) in the Overall Sample

	GHQ				SWLS			
L1 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{00}	*SE*	β_{10}	*SE*
AK	2.88***	.12	-.10***	.01	5.18***	.05	.03***	.01
HK	2.92***	.13	-.04**	.01	5.14***	.06	.01	.01
AI	2.89***	.12	-.05***	.01	5.16***	.06	.01***	.00

Notes. AK = Host Culture Orientation; HK = Origin Culture Detachment; AI = Overall Acculturation Index;
$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Generalization across national groups. Although the results for the overall sample underscored the general benefits of acculturation, it was possible that associations differed between national groups and language versions. To control for this possibility, I once again expanded the basic level-2 equations by a set of additional parameters (β_{01} through β_{31}, and β_{02} through β_{32}) multiplied by dummy variables indicating Japanese (J) and American (A) origin of the participant.

Structure of the origin country sensitive level-2 equations:

$$\pi_0 = \beta_{00} + \beta_{01}*J + \beta_{02}*A + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}*J + \beta_{12}*A$$

This analysis revealed that there were indeed several differences between the intercepts of each national group, with Japanese generally scoring significantly lower in self-reported life satisfaction and psychosomatic health (β_{01}) than Germans and Americans, and minor differences between the latter two (β_{02}; see Table 11). Ultimately however, the question whether this reflects a true difference in the underlying phenomena or just a measurement artifact of the different language versions was neither answerable nor relevant in this context. By far more important for successive analyses was the fact that, no matter which version of the FRAKK a participant answered, the positive relation between each of its indices and both psychosomatic health and life satisfaction remained undisputed. In other words: regardless of sojourner nationality, high overall acculturation was strongly related to both life satisfaction and health, with the amount of host culture orientation (AK) exhibited by a sojourner having a much stronger impact than the degree of origin culture detachment (HK).

Table 11

Influence of Acculturation on General Health (GHQ) and Life Satisfaction (SWLS) Across National Groups

	GHQ											
	Parameter estimates for Germans (baseline)				Baseline deviation of the Japanese group				Baseline deviation of the US group			
L1 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{02}	*SE*	β_{12}	*SE*
AK	2.72***	.15	-.08***	.02	1.31***	.37	.01	.04	-.26	.28	-.07†	.04
HK	2.70***	.15	-.04*	.02	1.61***	.39	-.01	.04	-.55†	.29	-.07†	.04
AI	2.73***	.15	-.04***	.01	1.42***	.37	-.01	.02	-.60*	.29	-.05*	.02
	SWLS											
	Parameter estimates for Germans (baseline)				Baseline deviation of the Japanese group				Baseline deviation of the US group			
L1 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{02}	*SE*	β_{12}	*SE*
AK	5.36***	.06	.03***	.01	-.92***	.15	.02	.02	-.17	.14	.01	.01
HK	5.34***	.06	.00	.01	-1.03***	.16	.00	.03	-.23	.15	.00	.01
AI	5.34***	.06	.01***	.00	-.96***	.15	.01	.02	-.12	.14	.00	.01

Notes. Scale abbreviations see Table 10; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Development of Acculturation, Health, and Life Satisfaction Throughout the Sojourn

One of my initial hypotheses was that the level of acculturation and adaptation a participant reached throughout the sojourn was not only a function of the time spent in the host culture, but highly dependent on both sojourner and host culture characteristics. I decided to examine this assumption with another series of 2-level HLM models. For reasons of parameter comparability across different levels of model complexity, all calculations in this section were based exclusively on the data of sojourners who had participated in both the T1 questionnaire before departure and at least once while abroad ($n = 246$).[65]

General trends. The first analysis once again focused on general changes throughout the sojourn[66] across all participant groups. Each of the three indices of the FRAKK (AK, HK and AI), raw GHQ and SWLS scores, as well as the subjective acculturation difficulty index (SI) in turn served as the acculturation-associated outcome variable (A) of a 2-level HLM model. At level-1 of each model, the value of each outcome variable was predicted by an intercept π_0, and a linear growth

[65] The main issue here was that the complete dataset contained a significant number of latecomers, who joined the project while already abroad in the host country, and thus did not provide the T1 personality and value endorsement self-ratings used as person-level predictors for acculturation. Technically, it would have been possible to multiply impute missing T1 data and thus benefit from an increase in effective case numbers ($n = 431$). However, since the algorithm for multiple imputation in SPSS produces the best-fitting solution for the overall sample, it does not adequately take into consideration the possibility that the relationship between regression parameters might actually differ between language versions and nationalities. Consequently, the combination of unequal sample sizes (German majority) and the uneven distribution of T1 missings across samples (German minority) would have led to especially weak estimates for certain subsamples. Since a similar problem would have arisen with separate imputations for each sojourner subgroup, I decided to limit my analysis to cases with sufficient data for unimputed analysis. Model parameter estimates for the simple time dependency and cultural distance dependency models (which both required no imputation) based on all participants who participated while abroad (regardless of their participation in the T1 questionnaire) were very similar (see Table G3 in the appendix).

[66] For general health (GHQ) and life satisfaction (SWLS), which were also measured prior to and after the sojourn, a more complex level-1 equation including parameters for pre-sojourn and post-sojourn ratings (as in the section on personality and values development) could also have been constructed. However, a comparison of parameter estimates throughout different levels of model complexity revealed that results for these expanded level-1 equations did not match the ones obtained with the simpler models reported here and in the following section on culture shock. This finding retrospectively underscored that my cautious stepwise approach to analysis was fully justified.

parameter π_1 multiplied by the number of years (t) spent abroad at the time of measurement. As usual, *e* denotes a random residual.

Structure of the basic level-1 equations:

$$A = \pi_0 + \pi_1 * t + e$$

The initial level-2 equations for the simple time-dependency models contained no predictors beyond intercept parameters (β_{00} and β_{10}) and random residuals (r_0 and r_1).

Structure of the basic level-2 equations:

$$\pi_0 = \beta_{00} + r_0$$
$$\pi_1 = \beta_{10} + r_1$$

Results for these basics models led to an astonishing finding: while self-ratings on the overall acculturation index (AI) of the FRAKK indeed showed a tendency for subsequent increases throughout the sojourn (positive β_{10} in Table 12, top row for each outcome variable), this trend failed to reach statistical significance. A closer inspection of parameter estimates for each of the instrument's subscales, however, revealed significant gains in host culture orientation (AK) with increasing time abroad; as such, the negative results for the compound AI scale can be attributed to limited changes in origin culture detachment (HK). Mirroring this development, acculturation difficulties (SI) were perceived successively less severe with increasing time abroad, which may also explain the remarkable gains in life satisfaction (SWLS). A similarly positive trend for the number and severity of psychosomatic symptoms (GHQ) did not reach statistical significance.

Table 12

Prediction of Host Culture Orientation (AK), Origin Culture Detachment (HK), Overall Acculturation (AI), Adjustment Difficulties (SI), Health (GHQ), and Life Satisfaction (SWLS) by Sojourn Time, Personality, Value Endorsement, and Host/Origin Culture Differences

	AK								HK							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	47.24***	.57	2.30*	1.11	-	-	-	-	40.60***	.63	.27	1.16	-	-	-	-
E	47.39***	.56	2.24*	1.14	2.12***	.61	-.67	1.24	40.75***	.63	.13	1.17	1.91**	.69	-1.14	1.28
A	46.97***	.59	1.92†	1.16	1.17	.74	.99	1.25	40.35***	.66	-.40	1.22	1.08	.76	2.04	1.39
C	46.38***	.62	1.63	1.19	1.39*	.55	.98	1.07	39.79***	.68	1.14	1.37	1.31*	.59	-1.40	1.27
N	46.36***	.69	3.49*	1.43	-1.77**	.68	2.23	1.42	40.22***	.78	.47	1.44	-.77	.79	.42	1.36
O	47.49***	.58	1.67	1.07	1.21†	.68	-3.20*	1.55	40.86***	.65	.12	1.16	1.32†	.77	-.66	1.60
Co	47.28***	.57	2.06†	1.08	-.24	.51	1.63†	.89	40.70***	.63	.15	1.15	-.76	.56	.81	1.10
Tr	47.16***	.56	2.34*	1.12	-1.31*	.59	1.96	1.40	40.43***	.61	.32	1.14	-2.39**	.73	2.46†	1.47
Be	47.45***	.58	2.27*	1.17	.71	.63	-.15	1.27	40.51***	.63	.79	1.30	-.30	.68	1.66	1.26
Un	47.19***	.57	2.26*	1.13	-.68	.69	-.86	1.36	40.62***	.63	.28	1.16	.27	.69	.20	1.31
Sd	46.80***	.57	3.27**	1.20	1.20*	.48	-2.79**	.96	39.89***	.62	.75	1.25	1.80**	.57	-1.34	1.02
St	47.00***	.59	2.57*	1.15	1.27*	.55	-2.00†	1.16	40.20***	.64	.43	1.19	1.88**	.63	-1.19	1.26
He	47.10***	.60	2.71*	1.12	-.37	.44	1.06	1.12	40.56***	.66	.40	1.31	-.12	.58	.33	1.21
Ac	47.17***	.61	2.33*	1.18	.13	.47	-.07	.82	40.31***	.61	.71	1.27	.57	.53	-.90	.87
Po	47.23***	.57	2.36*	1.14	.15	.62	-.87	1.32	40.64***	.62	.45	1.16	-.67	.77	-2.08	1.42
Sc	46.92***	.65	3.09*	1.35	-.72	.60	1.80	1.19	40.24***	.67	.27	1.29	-.75	.72	.05	1.45
ΔBFI[a]	47.25***	.57	2.24*	1.11	-11.81	14.60	-13.43	26.01	40.61***	.63	.20	1.16	-32.14*	15.47	-1.90	32.01
ΔPVQ[a]	47.27***	.56	2.23*	1.10	-18.63**	6.32	-11.85	11.98	40.62***	.63	.30	1.15	-9.54	7.14	25.59†	13.95

Table 12 (cont.)

	AI								SI							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	87.87***	1.04	2.47	1.90	-	-	-	-	1.88***	.03	-.33***	.06	-	-	-	-
E	88.16***	1.03	2.27	1.85	4.05***	1.21	-1.88	2.37	1.87***	.03	-.32***	.06	-.07†	.04	.05	.06
A	87.34***	1.10	1.47	1.87	2.28	1.43	2.93	2.04	1.89***	.03	-.32***	.06	-.04	.04	-.01	.06
C	86.20***	1.12	2.66	2.13	2.69**	.97	-.36	2.04	1.91***	.03	-.32***	.07	-.05*	.03	-.01	.05
N	86.60***	1.29	3.89†	2.34	-2.55*	1.28	2.72	2.34	1.96***	.04	-.39***	.07	.17***	.03	-.13†	.07
O	88.38***	1.06	1.66	1.81	2.56*	1.29	-3.94	2.77	1.88***	.03	-.33***	.06	.00	.04	-.01	.08
Co	88.01***	1.04	2.09	1.82	-1.03	.96	2.54	1.67	1.88***	.03	-.33***	.06	.00	.03	-.03	.05
Tr	87.62***	1.01	2.55	1.89	-3.72**	1.15	4.53†	2.44	1.88***	.03	-.33***	.06	.00	.03	.08	.07
Be	87.99***	1.05	2.93	2.06	.45	1.21	1.41	2.30	1.88***	.03	-.34***	.06	-.01	.03	-.05	.05
Un	87.83***	1.05	2.44	1.91	-.43	1.21	-.66	2.14	1.88***	.03	-.33***	.06	.03	.04	-.08	.06
Sd	86.70***	1.01	3.93†	2.07	3.03**	.94	-4.21*	1.72	1.89***	.03	-.33***	.06	-.02	.03	.01	.05
St	87.23***	1.07	2.90	1.99	3.18**	1.06	-3.27	2.15	1.89***	.03	-.34***	.06	-.04	.03	.03	.05
He	87.68***	1.11	3.03	1.99	-.50	.93	1.46	2.10	1.87***	.03	-.32***	.06	-.01	.02	.04	.05
Ac	87.49***	1.04	3.00	1.99	.72	.86	-1.09	1.38	1.86***	.03	-.33***	.06	.03	.03	-.01	.04
Po	87.90***	1.04	2.70	1.92	-.49	1.23	-3.01	2.28	1.88***	.03	-.33***	.06	.02	.03	.04	.06
Sc	87.16***	1.14	3.37	2.25	-1.53	1.18	2.10	2.19	1.86***	.03	-.33***	.06	-.03	.03	.01	.06
ΔBFI[a]	87.88***	1.04	2.35	1.91	-44.22†	26.30	-13.74	49.49	1.88***	.03	-.33***	.06	.98	.72	.53	1.13
ΔPVQ[a]	87.92***	1.04	2.39	1.89	-28.06*	11.78	12.47	22.44	1.88***	.03	-.33***	.06	.15	.34	.27	.57

Table 12 (cont.)

	GHQ								SWLS							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	2.94***	.20	-.47	.49	-	-	-	-	5.15***	.08	.34*	.15	-	-	-	-
E	2.92***	.20	-.45	.50	-.18	.24	.16	.57	5.17***	.07	.33*	.15	.36***	.09	-.12	.18
A	2.90***	.21	.04	.57	.06	.22	-1.50*	.57	5.06***	.08	.30*	.14	.36***	.09	.06	.21
C	2.99***	.24	-.22	.52	-.09	.20	-.36	.45	4.91***	.09	.38*	.16	.38***	.08	-.08	.16
N	3.44***	.26	-1.02†	.63	1.02***	.25	-1.07†	.60	4.90***	.09	.46**	.18	-.51***	.09	.25†	.15
O	2.89***	.21	-.29	.51	-.24	.24	.95	.60	5.15***	.08	.27†	.16	.00	.09	-.36*	.15
Co	2.91***	.21	-.39	.49	.20	.21	-.57	.40	5.15***	.08	.32*	.15	.00	.07	.17	.13
Tr	2.94***	.20	-.48	.50	.07	.21	-.32	.56	5.14***	.08	.35*	.15	-.06	.09	.18	.18
Be	2.96***	.21	-.58	.48	.10	.21	-.37	.54	5.19***	.08	.33†	.17	.15†	.08	-.06	.16
Un	2.93***	.20	-.47	.49	-.13	.25	.19	.54	5.14***	.08	.35*	.15	-.12	.09	.11	.17
Sd	3.02***	.21	-.79	.49	-.25	.16	.89**	.34	5.14***	.08	.46**	.15	.03	.06	-.34**	.11
St	3.01***	.21	-.62	.47	-.45*	.18	1.00*	.39	5.14***	.08	.38*	.15	.05	.07	-.24†	.14
He	2.90***	.21	-.59	.49	-.08	.14	-.33	.39	5.15***	.08	.35*	.16	.00	.07	.01	.13
Ac	2.79***	.20	-.44	.51	.26	.17	-.11	.38	5.16***	.09	.29†	.17	-.02	.06	.09	.12
Po	2.93***	.20	-.53	.48	-.07	.21	.86	.62	5.15***	.08	.35*	.16	-.01	.08	-.06	.20
Sc	3.00***	.22	-.84†	.48	.20	.19	-.93*	.41	5.17***	.10	.39†	.22	.04	.10	.09	.23
ΔBFI[a]	2.93***	.20	-.46	.50	7.60	5.11	-12.69	8.55	5.15***	.08	.34*	.15	-2.41	2.23	-1.42	4.40
ΔPVQ[a]	2.94***	.20	-.45	.50	3.43	2.33	1.51	5.19	5.15***	.08	.31*	.15	-3.01***	.90	-3.21†	1.81

Notes. Scale abbreviations see Tables 3 and 10; [a] estimates based on weighted average ratings of paired sojourner groups (see Table 3); †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Examination of the U-Curve Hypothesis. In search for a possible confirmation of the U-curve hypothesis of psychological acculturation, I also repeated analyses for psychosomatic health and life satisfaction with a slightly modified model. In each of these new models, the original time variable was centered around the half-year mark (t-.5), and each level-1 equation expanded by a second growth parameter π_2 multiplied by the square of this new time variable in order to reflect quadratic trends with a predicted low six month after the beginning of a sojourn (see Figure 1).

Structure of the level-1 equations used to test the U-Curve Hypothesis:

$$A = \pi_0 + \pi_1*(t\text{-}.5) + \pi_2*(t\text{-}.5)^2 + e$$

However, the predicted positive effect of squared time deviation from the 6-month mark on health and life satisfaction failed to emerge in all cases,[67] inducing me to abandon both the U-Curve Hypothesis and associated model modifications in future analyses.

Differences between national groups. In theory, inherent differences in the acculturation trajectories between the national groups represented in this study could have been masked by their treatment as equal contributors to the overall analysis. As before, I decided to control for this possibility by contrasting Japanese and American participants with the German majority. While level-1 equations remained unaffected, I once again expanded each level-2 equation by two additional parameters (β_{01}, β_{11}, and β_{02}, β_{12}) multiplied by dummy variables representing either Japanese (J) or US (A) origin.

Structure of the origin country sensitive level-2 equations:

$$\pi_0 = \beta_{00} + \beta_{01}*J + \beta_{02}*A + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}*J + \beta_{12}*A + r_1$$

[67] I repeated analyses with all sojourners who had provided ratings while abroad, the subsample of sojourners with complete T1 ratings used in the remaining analyses described in this section, and additionally after limiting the dataset to data obtained within one year after arrival in the host country to minimize possible deviations from the assumed quadratic trend afterwards (see Figure 1).

Even within the limited sample used for this analysis,[68] self-ratings for several outcome variables at the beginning of the sojourn significantly differed across national groups (see Table 13, parameters β_{00}, β_{01}, and β_{02}). Japanese participants appeared to score lower in initial host-culture orientation (AK), general health (GHQ), and life satisfaction (SWLS), while Americans reported lower initial origin culture detachment (HK), overall acculturation (AI), and satisfaction (SWLS), as well as higher self-rated difficulties (SI) than the German baseline group. However, due to the usual problems associated with cross-cultural comparisons based on Likert scales, a direct interpretation of these results is strongly discouraged. All estimates for group specific change slopes (parameters β_{11} and β_{12}) failed to reach statistical significance.

[68] Results for the complete sample, including data of sojourners who did not complete the T1 questionnaire, were very similar. For reference, please see Table G4 in the appendix.

Table 13

Prediction of Host Culture Orientation (AK), Origin Culture Detachment (HK), Overall Acculturation (AI), Adjustment Difficulties (SI), Health (GHQ), and Life Satisfaction (SWLS) by Sojourn Time Across National Groups for T1 Participants

	Parameter estimates for Germans (baseline)				Baseline deviation of the Japanese group				Baseline deviation of the US group			
Scale	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{02}	*SE*	β_{12}	*SE*
AK	48.01***	.66	2.17†	1.26	-4.46*	1.75	1.25	3.50	-2.07	1.52	-.37	3.55
HK	41.32***	,77	.84	1.38	.84	1.77	-1.74	3.23	-4.41**	1.47	-4.15	3.19
AI	89.38***	1.26	2.80	2.23	-3.76	2.90	.15	5.46	-6.55*	2.61	-4.26	5.60
SI	1.85***	.04	-.32***	.07	.06	.09	.04	.18	.16*	.08	-.08	.15
GHQ	2.71***	.24	-.39	.62	2.32**	.77	-1.20	1.12	.09	.50	.31	1.42
SWLS	5.31***	.08	.41**	.15	-1.01**	.34	-.56	.62	-.44*	.20	.10	.47

Note. †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Trend prediction by pre-sojourn personality. In order to study the influence of a sojourner's Big-Five personality traits on the acculturation process, I replaced the origin country specific level-2 parameters described in the previous section with two parameters (β_{01} and β_{11}), which were in turn multiplied by a sojourner's standardized pre-sojourn deviation from the origin country mean in each of the BFI subscales (ΔP).

Structure of the level-2 equations for dependency on sojourner personality:

$$\pi_0 = \beta_{00} + \beta_{01}*\Delta P + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}*\Delta P + r_1$$

Once more, the increase in equation complexity compared to the original basic time-dependency model had little effect on parameters associated with general trends (β_{00} and $\beta_{10;}$ see Table 12). Initial overall acculturation (AI) was strongly associated with high pre-sojourn self-ratings of extraversion, conscientiousness, openness, and low neuroticism (see estimates for parameter β_{01}). Surprisingly however, none of the Big Five had a significant impact on the development of overall acculturation degree throughout the sojourn (non-significant β_{11}). Separate analyses for the two subscales of the FRAKK revealed that the positive effects of extraversion, conscientiousness and openness generalized to initial levels of both host culture orientation (AK) and detachment from the origin culture (HK), with the former also negatively related to neuroticism. The only significant influence of a Big Five trait on an acculturation slope emerged for openness in combination with the AK: here, sojourners with especially high levels of artistic and intellectual curiosity, while starting out higher, actually seemed to have a slightly diminished rate of improvement later on.

High levels of extraversion and conscientiousness (but not openness), and low neuroticism were also related to lower initial acculturation difficulty perceptions (SI). The marginally significant trend for faster improvement throughout the sojourn observed for participants high in neuroticism (negative β_{11}) thus possibly reflects a regression toward the mean.

A similar pattern emerged for the development of general health (GHQ): again, high pre-sojourn neuroticism was associated with lower initial health, but also (just like agreeableness) with a faster decrease in the number and severity of psychosomatic

symptoms later.

Initial life satisfaction was strongly related to high levels of extraversion, agreeableness, conscientiousness, and low neuroticism. Yet again, however, the negative impact of neuroticism was partially negated by a (marginally significant) tendency towards faster improvement during the latter stages of a sojourn. Finally, the negative potential of openness (as measured by the BFI), already observed for the AK before, re-appeared: while it had no impact on life satisfaction levels during the first weeks in the host country, a pre-sojourn openness score one standard deviation above the origin country mean was enough to completely cancel out the general trend towards higher satisfaction thereafter.

Trend prediction by pre-sojourn personal values. As some of the biggest differences between sojourners and their sedentary peers had been observed between the respective patterns of value endorsement (see Table 5), the possibility of a link between certain personal values and acculturation success was of obvious practical relevance. Using the same basic model structure and outcome variables as in the previous section, the person-specific level-2 parameter ΔP now was in turn set to a sojourner's standardized pre-sojourn deviation from the origin country mean in each subscale of the of PVQ.

Despite the large number of possible effects (and the associated risk of chance associations), significant results were almost exclusively focused on the tradition, stimulation, self-direction and security scales. Not surprisingly, highly traditional participants were less oriented towards the host culture (AK), eager to preserve origin culture customs (HK), and, overall, less acculturated (AI) at the beginning of their sojourn (see Table 12, negative parameter β_{01}); however, starting out lower than their peers, they also exhibited a (marginally significant) tendency to close the gap later on (positive parameter β_{01}). Also, it is important to note that traditionalism was not related to any of the outcome variables indicating personal distress (SI, GHQ, and SWLS).

An opposing pattern was observed for stimulation-seeking and, most importantly, highly self-directed and independent participants. Both groups estimated their acculturation across all indices of the FRAKK significantly higher than the norm at the beginning of the sojourn, but generally failed to carry over their head start to its later stages. This time, effects were not limited to the (comparatively descriptive and

neutral) FRAKK either, but had a direct impact on both psychosomatic health (GHQ) and life satisfaction (SWLS). In all cases, initial advantages (if present) were quickly superseded by significantly lower improvements throughout the time spent in the host country. The apparent relatively faster improvement in psychosomatic health (GHQ) among security-oriented individuals, as well as the greater ease of conforming individuals to adapt to the typical way of life in the host culture (AK) are noteworthy, but to the isolated nature of both results in the large number of parameter estimates advises caution in their interpretation.

Trend prediction by host/origin country differences. My final expectation was that the size of the "cultural gap" between a participant's home and host countries exhibited a significant influence on the difficulty of acculturation, and, in extension, also on the development of psychosomatic health and life satisfaction throughout the sojourn. In order to assess the validity of this assumption, the last analysis reported in this section replaced the person-specific level-2 predictor ΔP by a group-specific cultural distance estimate ΔN, which set to the grand mean centered average of the sojourner-rated absolute differences between host and home culture across all facets of either the BFI or the PVQ (weighted sojourner averages for ΔBFI and ΔPVQ in Table 3).

Structure of the modified level-2 equations for dependency on cultural distance:

$$\pi_0 = \beta_{00} + \beta_{01}*\Delta N + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}*\Delta N + r_1$$

As displayed in Table 12 (final rows), increased host/home culture distances in both the BFI and the PVQ indeed had a (marginally) significant detrimental effect on the intercept of overall sojourner acculturation (AI). Evidently, the more personality and value endorsement patterns of host culture members differed from the standards a sojourner was used to, the harder it initially was to adapt (negative parameter β_{01}). This common pattern for the overall AI once again hid differential patterns for origin culture detachment (HK) and host culture orientation (AK). While the former was mainly influenced by differences in average personalities, the latter was significantly related only to the estimated average distance in value endorsement levels. The

magnitude of such culture-level values differences also was a highly significant predictor for lower initial life satisfaction and (marginally significant) further decreases later on; evidently, living in a society where the relative priority of conflicting values is at odds with home culture customs poses a threat not only to acculturation, but also to the general satisfaction with one's life as a whole.[69]

Development of acculturation, health, and life satisfaction throughout the sojourn: Summary. Overall, analyses in this section confirmed a general trend for increasing host culture orientation (AK) and life satisfaction (SWLS), accompanied by a subjective decrease in acculturation difficulties (SI) throughout the sojourn. Underscoring the importance of subscale-level analyses for the FRAKK, associated trends for origin culture detachment (HK) largely remained non-significant. A special analysis for participant health (GHQ) and life satisfaction (SWLS) revealed that the U-Curve Hypothesis of psychological adaption did not apply to the present sojourner samples. While the intercepts of most outcome variables associated with acculturation success strongly differed between national groups, the interpretation of these results constitutes a difficult, but in the context of this dissertation fortunately irrelevant question; there were no significant differences between the respective change slopes. Both pre-sojourn personality traits and a subset of value endorsement levels allowed for a limited prediction of outcome variable scores at the beginning of a sojourn, but both largely failed to consistently predict subsequent developments later on. Finally, the sojourner-rated overall cultural distance between host and home country across all subscales of the BFI was negatively related to initial origin culture detachment (HK) and overall acculturation (AI), while a larger cultural distance according to the values represented in the PVQ predicted lower initial overall acculturation (AI), host

[69] Concerning the interpretation of parameter values, it may be necessary to remember that ΔN is nothing but a placeholder for the mean of the absolute sojourner-rated host/origin country differences across all subscales of the country-comparison versions of either the BFI or the PVQ. Accordingly, β_{01} reflects the change in the outcome variable intercept associated with staying in a host culture separated from the country of origin by an average difference of one raw scale point, and β_{11} describes the additional increase or decrease in the outcome variable associated with spending one full year abroad in such a country. Since the resulting estimates for the differences between the cultures represented in this study tended to be small (see Table 3), associated parameter values naturally tended to become comparatively large, even when they were not statistically significant. The absence of an established reference criterion for the magnitude of cultural distances, however, made it difficult to provide a valid perspective on the practical relevance of observed effects even when they were.

culture orientation (AK), and life satisfaction (SI), as well as a less favorable development of the latter abroad.

Culture Shock

In order to complement the analysis of psychosomatic health and life satisfaction throughout the sojourn, I decided to examine evidence for a relatively abrupt decrease in both outcome variables immediately after its beginning, which could be interpreted as a "culture shock". Again, successive inclusion of several person and environment specific variables into the model used for analysis would provide me with additional insight into possible predictors for the phenomenon. Corresponding analyses were exclusively based on the data of participants who had provided both T1 and T2 self-ratings on each of the outcome variables ($n = 228$).

General trends. A preliminary t-test revealed that the notion of a general and universal "culture shock" did not apply to the sojourners represented in this study. Neither the average number of psychosomatic symptoms nor life satisfaction significantly changed between the pre-sojourn phase and the first month abroad (see Table 14, column $\Delta_{T1\text{-}T2}$). These initial findings were corroborated in a subsequent HLM analysis, which served as the basis for comparison throughout different levels of model complexity.[70] Each of the associated basic models predicted either a sojourner's GHQ and SWLS score (H) by an intercept π_0, and a slope parameter π_1 multiplied by a binary indicator (b) for whether a measurement was obtained before the sojourn or during the first month abroad (*e* denotes a random residual).

Structure of the basic level-1 equations:

$$H = \pi_0 + \pi_1 * b + e$$

The initial level-2 equations for this simple T1/T2 comparison originally contained no predictors beyond intercept parameters (β_{00} and β_{10}) and a random residual (r_0).

[70] In preparation of this analysis, the original dataset was cleared of data obtained outside the T1 or T2 measurement periods, and of cases for which not both measurements were available.

Structure of the basic level-2 equations:

$$\pi_0 = \beta_{00} + r_0$$
$$\pi_1 = \beta_{10}$$

Considering the prominence of the culture shock phenomenon throughout the literature, its absence among sojourners participating in this study (non-significant estimates for β_{10} in Table 14) was somewhat unexpected.

Table 14

Comparison of Parameter Estimates: T-test and HLM Model for Changes in Health (GHQ) and Life Satisfaction (SWLS) During the T1/T2 Transition

	t-test						HLM parameters estimates			
Scale	M_{T1}	*SD*	M_{T2}	*SD*	$\Delta_{T1\text{-}T2}$	*SE*	β_{00}	*SE*	β_{10}	*SE*
GHQ	3.03	2.82	2.92	2.82	.11	.22	2.90***	.19	.13	.22
SWLS	5.12	1.11	5.16	1.12	-.04	.05	5.17***	.07	-.04	.05

Notes. M_{T1}, M_{T2} = sojourner mean at T1 and T2; $\Delta_{T1\text{-}T2} = M_{T1}$ - M_{T2}; $^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Table 15

Development of Health (GHQ) and Life Satisfaction (SWLS) During the T1/T2 Transition Across National Groups

	Parameter estimates for Germans (baseline)				Baseline deviation of the Japanese group				Baseline deviation of the US group			
Scale	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{02}	*SE*	β_{12}	*SE*
GHQ	2.64***	.21	.67**	.24	2.41***	.70	-3.19***	.85	.20	.48	-1.30*	.52
SWLS	5.33***	.08	-.05	.05	-1.13***	.27	.29	.18	-.30	.19	-.12	.15

Note. $^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Differences between national groups. As always, a lack of effects for the overall sample did not preclude the possibility of subgroup specific trends. Consequently, I included two additional parameters (β_{01}, β_{11}, and β_{02}, β_{12}), multiplied by dummy variables representing either Japanese (J) or US (A) origin, in each of the basic level-2 equations to check for related evidence.

To my considerable surprise, the T1/T2 transition seemed to affect each sojourner group in a decidedly different manner, even when differences in the respective intercept-related parameters (β_{01} and β_{02}) were ignored. Whereas for Germans, the number of psychosomatic symptoms significantly decreased after arrival in the host country (positive β_{10}), both the Japanese and US samples displayed significant deviations from this trend in the opposite direction (see Table 15 above, parameters estimates β_{11} and β_{12}). Since no significant changes in life satisfaction were observed in either group, it seems prudent to conclude that the concept of a general, unidirectional culture shock, already questioned by the non-significance of the overall results, does not necessarily apply to voluntary, highly educated sojourner samples as represented by participants in this study.

Prediction by pre-sojourn personality and personal values. In order to examine whether certain sojourner characteristics differentially affected the propensity to experience a culture shock, I subsequently replaced the country-specific level-2 parameters by a set of parameters associated with either pre-sojourn personality trait (BFI) or value endorsement (PVQ) scores (see analogous section in the previous analysis of acculturation trajectories). While high extraversion, agreeableness and conscientiousness were associated with higher self-reported life satisfaction during the first measurement abroad (see Table 16, positive β_{01}), and although neuroticism showed the expected detrimental effects on both life satisfaction and psychosomatic health, effects for a participant's personal values were virtually absent. Moreover, both the Big Five and personal values generally failed to predict associated changes during the T1/T2 transition, with the possible exception of power orientation: sojourners highly interested in power and control appeared to suffer significantly more from psychosomatic distress during the phase of uncertainty before departure than after their first first-hand experiences with life abroad (positive β_{11}).

Table 16

Prediction of Health (GHQ) and Life Satisfaction (SWLS) Development During the T1/T2 Transition by Pre-Sojourn Personality, Value Endorsement, and Host/Origin Culture Difference for T1 Participants

	GHQ								SWLS							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	2.90***	.19	.13	.22	-	-	-	-	5.17***	.07	-.04	.05	-	-	-	-
E	2.89***	.19	.14	.22	-.13	.22	.15	.26	5.20***	.07	-.04	.05	.36***	.08	.09	.06
A	2.89***	.19	.21	.23	.02	.21	-.32	.23	5.10***	.08	-.06	.05	.32***	.09	.08	.06
C	2.96***	.22	.15	.27	-.10	.18	-.04	.22	4.95***	.09	-.04	.06	.36***	.07	.00	.05
N	3.36***	.24	.26	.30	.93***	.22	.27	.27	4.94***	.09	-.06	.06	-.47***	.08	-.04	.06
O	2.97***	.19	.11	.23	-.05	.22	-.10	.27	5.17***	.08	-.04	.05	-.02	.09	.02	.06
Co	2.89***	.19	.12	.22	.08	.20	.12	.20	5.17***	.08	-.04	.05	.04	.07	.01	.05
Tr	2.90***	.19	.15	.22	.07	.20	.21	.24	5.17***	.07	-.04	.05	-.07	.08	.02	.05
Be	2.93***	.19	.02	.22	.13	.18	-.36†	.18	5.21***	.07	-.04	.05	.13†	.07	.02	.05
Un	2.90***	.19	.12	.21	-.02	.24	-.18	.26	5.17***	.07	-.05	.05	-.10	.09	-.09†	.06
Sd	2.96***	.20	.20	.23	-.18	.15	-.18	.20	5.16***	.08	-.03	.05	.02	.06	-.03	.04
St	2.96***	.19	.12	.23	-.32†	.17	.07	.20	5.17***	.08	-.03	.05	.02	.07	-.08†	.05
He	2.87***	.19	.05	.22	-.08	.14	-.22	.17	5.16***	.08	-.02	.05	-.03	.07	.06	.04
Ac	2.79***	.18	.00	.22	.20	.16	.25	.16	5.17***	.08	-.04	.05	.01	.06	.00	.04
Po	2.90***	.19	.09	.22	-.08	.19	.61**	.21	5.18***	.07	-.04	.05	-.04	.08	.04	.06
Sc	2.95***	.21	.06	.15	.12	.18	-.17	.27	5.18***	.08	-.01	.06	.02	.09	.07	.06
ΔBFI	2.90***	.19	.13	.22	9.09†	5.29	-14.98*	7.06	5.17***	.07	-.04	.05	-1.81	2.19	1.00	1.54
ΔPVQ	2.89***	.19	.13	.22	3.08	2.28	-5.16†	2.86	5.17***	.07	-.04	.05	-3.22***	.86	.67	.64

Notes. Scale abbreviations see Table 3; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Prediction by host/origin country differences. My earlier review of the literature also justified the assumption that the amount of culture shock experienced by a sojourner directly depended on the cultural differences between the two countries involved. As in my previous analysis of the development of acculturation throughout the sojourn, I examined this possibility by including the grand mean centered average of the sojourner-rated absolute differences between host and home culture across all facets of either the BFI or the PVQ (weighted sojourner averages for ΔBFI and ΔPVQ in Table 3) as an additional, group specific predictors into the basic level-2 equations.

Larger cultural differences in both instruments indeed predicted lower life satisfaction and a higher number of psychosomatic symptoms at the beginning of the sojourn, although the pattern of significances was not complete (parameter β_{01}, final rows of Table 16). A more direct confirmation for the health related risks associated with crossing over in a completely new culture was provided by an examination of GHQ score development between the T1 and the T2 measurement periods. Here, higher host/origin country differences in both the estimated national mean BFI and PVQ levels were directly linked to a larger drop in psychosomatic health between the immediate pre-sojourn phase and the first days abroad (negative parameter β_{11}).

Culture shock: Summary. Based on above results, I had to refute the notion of a general culture shock that universally affected all, or at least a majority, of the sojourners represented in this study. It is interesting to note that the overall non-significance was partially qualified by country-specific effects, but that a possible explanation by sojourner personality and personal values was decidedly less successful than expected. Nonetheless, there was convincing evidence that the total amount of personality trait and values differences between host and home country populations actually matters: the broader the cultural gap, the higher the initial drop in psychosomatic health sojourners had to cope with.

Reverse Culture Shock

My final series of analyses was concerned with the related, but by far less prominent concept of reverse culture shock. Comparing life satisfaction and the number of psychosomatic health during the last days abroad and immediately after the return home enabled me to estimate the frequency and severity of associated

difficulties. In order to ensure maximum comparability of parameter estimates throughout different levels of model complexity, the following analyses were based exclusively on the data of participants who had provided both T4 and T5 self-ratings on each outcome variable ($n = 124$).

General trends. A preliminary t-test revealed that there was no indication of a general reverse culture shock during the first month after the return home; no significant decrease in overall life satisfaction (SWLS), and no increase in the number of psychosomatic symptoms (GHQ) was observed across sojourner samples (Table 17, column $\Delta_{T5\text{-}T4}$). Using a similar model as in the case of culture shock, I closely replicated this result in a subsequent HLM analysis. As expected; estimates for parameters associated with changes during the T4/T5 transition (β_{10}; see Table 17) were also non-significant and very similar in size to the associated $\Delta_{T5\text{-}T4}$ values of the t-tests.

Differences between national groups. Just as before, I also examined the possibility of nationality specific trends by contrasting the Japanese and US samples with the German majority. This time however, neither group exhibited signs of consistent changes in general health or life satisfaction between the end of the sojourn and immediately thereafter (nonsignificant parameter β_{10} for the German sample, and nonsignificant deviations β_{11} and β_{12} from that baseline, see Table 18). In fact, the only differences between groups were a marginally significant tendency for the Japanese sample to report lower levels of psychosomatic health (positive β_{01}) and significantly lower life satisfaction (positive β_{02}) during the final month abroad than their German colleagues. In light of the absence of common norms for different language versions of the GHQ, however, these results should be interpreted with considerable caution.

Table 17

Comparison of Parameter Estimates: T-test and HLM Model for Changes in Health (GHQ) and Life Satisfaction (SWLS) During the T4/T5 Transition

	t-test						HLM parameters estimates			
Scale	M_{T4}	*SD*	M_{T5}	*SD*	$\Delta_{T5\text{-}T4}$	*SE*	β_{00}	*SE*	β_{10}	*SE*
GHQ	3.20	3.05	3.27	3.37	.07	.35	3.21***	.27	.10	.35
SWLS	5.36	1.19	5.27	1.04	-.09	.09	5.35***	.11	-.10	.09

Notes. M_{T4}, M_{T5} = sojourner mean at T4 and T5; $\Delta_{T5\text{-}T4} = M_{T5} - M_{T4}$; $^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Table 18

Development of Health (GHQ) and Life Satisfaction (SWLS) During the T4/T5 Transition Across National Groups

	Parameter estimates for Germans (baseline)				Baseline deviation of the Japanese group				Baseline deviation of the US group			
Scale	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{02}	*SE*	β_{12}	*SE*
GHQ	3.04***	.30	.35	.41	1.66†	.98	-.85	1.03	.28	.78	-1.31	.91
SWLS	5.44***	.10	-.12	.09	-1.38**	.46	.72	.60	.09	.34	-.22	.21

Note. $^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Prediction by sojourner personality and personal values. An obligatory analysis of the influence of personality traits and value preferences confirmed a positive association between health, life satisfaction, and self-reported extraversion, agreeableness, and conscientiousness during the final month abroad, while a high degree of neuroticism had the usual detrimental effects (see Table 19, parameter β_{01}). More importantly, however, this analysis also revealed that at least for the GHQ, the relative advantages and disadvantages conferred by certain personality traits during the final days of the sojourn tended to quickly dissolve after the return home (opposite signs of parameters β_{01} and β_{11}).

Considering the influence of value preferences, results were almost as limited as in the previous analysis of culture shock. It is true that a strong desire for security (possibly due its association with a need for overall stability) led to a significant increase in the amount of psychosomatic problems experienced during the re-acculturation phase, and that power-oriented sojourners reported a significant increase in life satisfaction after returning to their native environment (parameter β_{11}); trends for both values, however, have to be seen in the context of exactly opposing effects on initial outcome variable scores during the final days of the sojourn (parameter β_{01}). Consequently, the question of whether the significant estimates for β_{11} represent "true" effects on the re-acculturation process, or merely a regression toward natural health and satisfaction levels after the end of the extraordinary sojourn situation must remain unanswered.

Prediction by host/origin country differences. The final analysis once again centered on the influence of overall host/home culture differences in the BFI and the PVQ on the development of health and life satisfaction during the transition back to the home country. Value endorsement differences indeed emerged as a significant predictor for both lowered health and life satisfaction during the final days of the sojourn (see Table 19, final rows, parameter β_{01}), as well as for relative increases in health and life satisfaction after a sojourner had returned to the familiar confines of the home culture (parameter β_{01}) environment. Conversely, the magnitude of culture-level differences in the Big-Five personality traits seemed to play only a very minor role.

Table 19

Prediction of Health (GHQ) and Life Satisfaction (SWLS) Development During the T4/T5 Transition by T4 Personality, Value Endorsement, and Host/Origin Culture Difference

	GHQ								SWLS							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	3.21***	.27	.10	.35	-	-	-	-	5.35***	.11	-.10	.09	-	-	-	-
E	3.26***	.27	.06	.36	-.54	.35	.42	.46	5.31***	.10	-.09	.09	.36**	.12	-.04	.09
A	3.51***	.29	-.25	.37	-.93**	.36	1.10*	.47	5.15***	.11	-.03	.08	.63***	.14	-.19	.12
C	3.86***	.33	-.42	.46	-1.04***	.29	.84*	.39	5.11***	.14	-.01	.10	.38**	.13	-.13	.10
N	3.75***	.36	-.42	.50	.87**	.30	-.84†	.45	4.94***	.13	.07	.10	-.66***	.11	.27**	.10
O	3.26***	.28	.16	.36	.26	.28	.30	.37	5.33***	.11	-.08	.10	-.08	.14	.08	.12
Co	3.20***	.27	.11	.35	-.41†	.22	.30	.33	5.35***	.10	-.10	.09	.06	.10	-.09	.08
Tr	3.20***	.27	.11	.35	.22	.27	-.26	.36	5.35***	.11	-.09	.09	-.06	.12	-.10	.12
Be	3.19***	.27	.12	.37	-.07	.21	.04	.27	5.41***	.11	-.09	.09	.16*	.08	.00	.06
Un	3.18***	.27	.12	.35	.35	.28	-.24	.35	5.34***	.10	-.09	.09	.10	.12	-.03	.07
Sd	3.04***	.30	.25	.44	.31	.25	-.27	.33	5.40***	.12	-.15†	.10	-.08	.10	.10	.06
St	3.15***	.28	.15	.36	.22	.20	-.19	.29	5.34***	.11	-.11	.09	.03	.09	.04	.07
He	3.27***	.29	-.13	.35	.14	.25	-.48	.30	5.38***	.12	-.06	.11	.07	.10	.07	.09
Ac	3.23***	.28	.13	.37	-.03	.19	-.07	.25	5.39***	.11	-.13	.10	-.10	.07	.07	.06
Po	3.22***	.27	.09	.35	.40	.31	-.54	.39	5.34***	.10	-.09	.09	-.40**	.12	.23**	.09
Sc	2.87***	.27	.72†	.39	-.69**	.23	1.23***	.33	5.40***	.12	-.19	.12	.10	.12	-.19†	.11
ΔBFI	3.21***	.27	.10	.35	-7.38	11.69	-1.24	11.75	5.35***	.11	-.09	.09	2.57	5.02	-3.34	3.89
ΔPVQ	3.21***	.26	.10	.35	8.83*	3.83	-10.93**	4.27	5.35***	.10	-.09	.09	-3.83*	1.57	2.45†	1.30

Notes. Scale abbreviations see Table 3; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Reverse culture shock: Summary. Just as with culture shock before, there was little evidence for a general shock to participant health or life satisfaction associated with the transition back to the home country. Together with the absence of significant national trends, a more than mixed pattern of effects for personality traits, personal values and cultural distances leaves room for only one sensible conclusion: the reverse culture shock phenomenon evidently depends on a constellation of factors that was not generally present in the voluntary, highly educated sojourners participating in this study.

Discussion

For a focused and detailed discussion of the broad range of findings presented in this dissertation, a split according to subject area appears as inevitable. In order to facilitate a direct comparison with associated analyses, the thematic order of topics covered below roughly mirrors the order of corresponding results sections.

Participant Dropout

The high propensity of sojourners to prematurely terminate their participation in the project was unfortunate but expected. For many participants, their stay abroad also marked the longest (and sometimes: first) time they had ever been separated from their hometown environment, their families, and the support of their friends. While this separation enabled them to experience unprecedented levels of independence and self-reliance, and thus indeed may have accelerated their transition into adulthood (Back et al., 2012), it is likely that the perceived importance of the present research project considerably decreased in face of countless acculturation and maturation tasks demanding immediate attention.

In line with this interpretation, especially those with a pronounced interest in active engagement with the outside world (high extraversion) and those vulnerable to stress and coping demands (high neuroticism) were more likely to discontinue their participation. Interestingly, conscientiousness was not related to dropout rates in any way, although its association with dutifulness and discipline arguably implied a direct link (e.g. Asendorpf & Wilpers, 1998). The only logical conclusion is that general conscientiousness plays less of a role in the special context of sojourner acculturation, where the influence of other personality factors dominates. The fact that these results were replicated even after controlling for age, gender, and differences between national groups indicates a certain degree of universality – at least for the highly educated, voluntary, and primarily academic sojourners represented in this study.

The fact that significantly better retention rates were observed among the German sample in comparison to both the Japanese and the US samples possibly reflects a higher personal identification of German subjects with the primarily German project. Also, although painstaking effort was taken to treat all participant groups equal by adapting the language, wording, and style of all questionnaires, instructions,

newsletters, and emails as much as possible to local customs, and consulting a native speaker in all cases of uncertainty, it is highly likely that I still failed to always "strike the right note" with US and Japanese participants. In hindsight (and considering my own emphasis of cross-cultural collaboration as a guiding principle in modern scientific research: not without personal remorse), a closer cooperation with local researchers would have been highly advised to alleviate this problem.

Once again, however, it is crucial to note that, due to the specifics of the parameter estimation algorithm in HLM, these tendencies for selective dropout did not affect any of the analyses concerned with changes in participant characteristics throughout the sojourn; neither in the overall sample, nor as a factor explaining differences between origin-country groups.

Cross-Cultural Differences in National Mean Personality Trait and Value Endorsement Levels

One of the most important findings of this study unquestionably was that alleged host/home country differences in national personality trait and value endorsement mean levels as calculated from aggregated within-culture self-ratings on subjective Likert scales (e.g., Allik & McCrae, 2004; Schmitt et al., 2007) tell us absolutely nothing about how sojourners perceive these differences; overall, the correlation was almost exactly zero (see Table 4 and Figures 8, 9). In principle, it could be argued that asking participants to directly contrast host and home country inhabitants paved the way for stereotypical answers in line with common preconceptions, but completely unrelated to the truth; and in fact, similar arguments have been used to rationalize a similar lack of agreement between national self-rating means and perceptions of national character before (e.g., Terracciano et al., 2005). However, this alternative explanation seems highly unlikely for several reasons.

First, research surrounding the Reference Group Effect provides both theoretical arguments and empirical evidence for why cross-cultural comparisons based on national self-rating means *must* fail (e.g., Heine et al., 2002; 2008).[71] As such, the

[71] While clearly beyond the scope of this dissertation, it is interesting to note that even national self-rating means show evidence of geographic and cultural clustering (e.g. Allik & McCrae, 2004). However, the discovery of such clusters alone does not provide sufficient evidence for the accuracy of the underlying self-ratings, which could be influenced by factors such as selective self-enhancement on personality traits which are especially highly valued in one set of regional

divergence between national self-rating mean differences and sojourner estimates does in no way compromise the validity of the latter. Second, instructions for the country comparison versions of the BFI and the PVQ used in the present study explicitly asked for an assessment based as much as possible on personal, first-hand experience with host and origin culture members for the specific reason of preventing stereotypical answers; an instruction repeated several times throughout the questionnaire. Since only the ratings of sojourners with several months of experience abroad were used for the estimation of country differences, the postulation of stereotypical answers would imply that participants were not only unable to follow the instructions, but also unable to modify their own preconceptions despite their continuous falsification abroad. Third, a series of analyses in the context of sojourner health development revealed that the overall estimated cultural distance between host and origin countries in both the PVQ and the BFI was directly related to acculturation difficulty, lower life satisfaction, as well as psychosomatic health problems during the first weeks in the host country. If the difference ratings were merely an aggregation of unfounded stereotypes, the apparent consistency with theories linking cultural distance and acculturation difficulty could hardly be explained.

By far the strongest indicator for the validity of the sojourner estimates, however, is their astonishing degree of consistency across national groups and country combinations. On the one hand, the present study demonstrated that participants who travelled between the same two countries in opposite directions (e.g. Germans to the US and US citizens to Germany) strongly agreed on the direction and magnitude of associated cultural differences (see Table 4 and Figures 10, 11). On the other, even difference ratings obtained from completely unrelated sojourner groups were highly transitive (see Table 4 and Figures 13, 14). Simplified, this means that *all* participant groups agreed on the differences between *all* cultures under observation, even though each difference was rated independently.

This result is very difficult to explain with unfounded stereotypes alone, unless one assumes that country specific stereotypes exist for all BFI and PVQ subscales, for all countries under observation, and that each of these stereotypes is equally well-known and endorsed by all national groups. Arguably, a by far more parsimonious

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cultures, but not in another.

assumption is that the difference ratings were so coherent across country combinations and nationalities because they were all based on similar observations, and on similar interpretations of the same real differences.

Taken together, above considerations make it likely that sojourners (and by extension other biculturals) may be the key to one of the most long-standing problems of cross-cultural psychology: the reliable quantification of cultural differences. Arguably, their high familiarity with origin and host country societies allows them to provide informed and highly accurate judgments, and at the same time sensitizes them against the confusion of surface-level variations in overt behavior and "true" differences in latent trait levels. While it is true that each bicultural could only provide reliable information on the difference between the two countries he or she is most familiar with, the apparent high degree of transitivity between individual difference ratings in principle allows for the stepwise establishment of a multidimensional "map" detailing how *all* cultures differ from one another; and with every new difference estimate integrated, not only the scope of the network, but also its accuracy would increase.[72]

The reasoning behind this prospect is that a high degree of transitivity implies the possibility to predict cultural differences that have never been directly estimated before, as long as the difference to be predicted is the only missing link in an established "loop" (see Figure 3).[73]

In sum, sojourners and other biculturals present themselves as a most promising resource for cross-cultural research whose true potential has barely been tapped. Initial reservations about the validity of their observations were refuted on the basis of consistency across paired sojourner groups, their ordinal and metric transitivity across three country combinations, as well as their validity as predictors for acculturation difficulties in line with theoretical expectations. The indispensable call

[72] The likelihood of each constellation of a multidimensional similarity map is a direct function of the amount of structural stress caused by data that is not consistent with the estimated overall configuration. Recent developments in network analysis methods not only allow for a calculation of the most likely overall constellation given the empirical data available, but also for the direct identification of highly inconsistent or unstable (and thus: unlikely) nodes, in turn enabling the automatic detection of map areas that require further clarification.

[73] This is associated with a decrease in the minimum number of individual measurements necessary for the establishment of a difference network of N cultures and k characteristics from $k^*\sum_{i=1}^{N}(N-i)$ to k*(N-1). E.g., for two characteristics and ten cultures, the number of necessary difference measurements is reduced from 110 to 18.

for confirmation (or falsification) in future studies is greatly facilitated by the apparent possibility to integrate even relatively isolated results of other studies in a comprehensive network, while the newly developed statistical test for metric transitivity presented provides for a convenient way to discover inconsistent nodes warranting further examination.

Pre-Sojourn Differences Between Sojourners and Their Sedentary Peers

The present study largely confirmed the common stereotype of sojourners as stalwart and fearless adventurers (McCrae et al., 1998). Provided the self-reports obtained immediately before departure are accurate, "typical sojourner personalities" tend to be distinguished by a unique combination of self-direction, low neuroticism, and a disregard for security that sets them apart from their sedentary peers. While the correlational nature of this analysis technically makes it impossible to decide whether an adventurous personality facilitates the decision to sojourn, or whether the prospect of staying abroad leads to changes in self-perception in direct comparison to those who stay behind, both explanations do not necessarily contradict each other. If sojourners come to perceive themselves as more adventurous in light of their decision to sojourn, it is quite possibly because they really are; after all, they just decided to leave behind their homes, abandon the social support and security of their families, and venture out to see the world.

It is also interesting to note that most of the other "typical" personality characteristics proposed or reported by previous researchers (Back et al., 2012; McCrae et al., 1998; Zimmermann, 2012), with the possible exception of high agreeableness, could not generally be confirmed for the samples represented in this study. As such, they may represent majority trends for specific national groups, but not truly universal "sojourner characteristics". Additional evidence for this assumption was provided by the observation that pre-departure personalities and values varied remarkably not only across, but also within origin country groups according to host/origin country combinations. This observation in turn led to the theory of participant self-selection to host culture environments with norms, rules, and behavioral customs that are perceived to be in line with their own personalities, values and preferences. The hypothesis was confirmed both on the group level and the

individual level. In both cases, sojourners high in extraversion, openness, conformity, universalism, stimulation, hedonism, achievement and power shared a clear tendency to seek out host cultures that were distinguished by the same characteristics.

To my best knowledge, these results are the first empirical evidence for a direct link between sojourner and host culture characteristics. As such, they provide an important new perspective on factors directing the ever-increasing flow of highly educated (and thus, economically: highly valuable) voluntary migrants. Especially for the universally sought-after intelligentsia, the educational and occupational opportunities provided by a possible host evidently are *only part of the picture*. Countries and companies hoping to maximize their attractiveness for foreign-born top-level human resources are well-advised to specifically present themselves to each target group in a way that facilitates personal identification both at the personality and at the values level; and, for the sake of long-term retention, to actually provide a local environment that "fits" these specific preferences.[74] In any case, the results presented above show that sojourners do not only systematically differ from their origin country peers, but that many of these differences can also be predicted by measurable characteristics of the specific host/origin country combinations under observation.

Development of Personality and Value Endorsement Self-Ratings Throughout the Sojourn

Interestingly, the pattern of personality development observed by Back (increasing extraversion, agreeableness, conscientiousness, openness, and decreasing neuroticism; Back et al, 2012) fairly well applied to the development of my own German sample, but neither to the development of Japanese, nor to the development

[74] A typical example for a complete failure to take these factors into consideration was recently provided by the German government. In 2000, it established a new type of green card model in order to attract IT specialists from outside Europe, with a strong focus on India. Contrary to expectations, demand was decidedly low among the target group, although working conditions (as defined by salary, living standards and opportunities for advanced training) were estimated to be decidedly better in Germany. According to a recent study, this assumption proved both wrong (as most targets belonged to the educational elite in their home countries, and thus experienced a considerably higher relative living standard there than in Germany) and strongly overshadowed by the negative effects of perceived differences in value priorities and norms for social interaction (Meijering & van Hoven, 2003).

US participants (see Table 8, parameter estimates β_{20}, β_{21}, and β_{22}). Similarly, the development of personal values throughout the sojourn very strongly differed across national groups, rendering the general trends reported for the overall sample (see Table 7, parameter estimate β_{20}) highly questionable, at best. Evidently there is no universal pattern to how sojourners change abroad, just a number of patterns which fit specific sojourner groups with varying degrees of accuracy. The same is true for changes during the transition from origin to host countries, as well as the transition back home after the end of the sojourn: In all cases where a trend for one participant group became significant, comparably sized (although not necessarily significant) deviations from that trend in the opposite direction were observed in another group. Under these circumstances, it is simply not warranted to speak of global trends qualified by country specific deviations. It is more sensible to endorse that, at least for the sojourner samples reviewed, no global trends exist.

Similar to how my earlier analysis had proven self-selection to specific host countries, I had expected that sojourner personality and value patterns actually change according to the specific acculturation tasks encountered in their new social environment, leading to changes in line with host/home country differences. To my considerable surprise, this hypothesis was completely falsified. While abroad, sojourners self-reports did not only *not* change as expected, but in cases where statistical significance was attained actually changed in the opposite direction – with the curious exception of neuroticism (parameter estimates β_{21} in Table 9 and Table G2 in the appendix). In other words, sojourners tended to rate themselves successively lower on characteristics that were estimated to be typical for host culture members.

One possible explanation that immediately comes to mind is that an increasing tendency to associate with, and, in turn, to compare with host culture members during progressive acculturation may have led to a shift in personal standards[75] that counteracted, and in some cases even over-compensated (possible) changes to latent characteristics (see Figure 5). This mechanism could also explain the exceptional role of neuroticism: as this personality trait is notoriously difficult to observe in strangers

[75] In hindsight, my own attempt to fix the reference group used for self-comparison to the origin country standard may have been compromised by the possibility that the perception of the relatively abstract entity of "home country peers" itself changed throughout the sojourn. As such, a direct reference to a more clearly circumscribed set of concrete individuals (e.g., classmates or colleagues) would have been advised.

(Vazire, 2010; Vazire & Gosling, 2004), a systematic shift in comparative standards is by far less likely to occur, in turn leading to relatively undistorted perceptions of actual changes in personal latent trait levels. While technical limitations of the study presented here necessitate that the verification of this hypothesis remains an agenda for the future, there clearly is *some* association between how sojourners develop abroad and the cultural difference between host and origin countries; and just as clearly, the relation is more complex than originally assumed.

In contrast, results concerning changes in self-perception immediately after the return to the country of origin were very clear-cut. For the Big Five, no common pattern of changes emerged. Concerning their personal values, however, returning sojourners showed a strong increase in the tendency to attribute to themselves values that are typical for inhabitants of their former host cultures; and even though statistical significance was attained for only five of the ten subscales of the PVQ, the signs of all ten parameter estimates perfectly fit this pattern (parameter estimates β_{31} in Table 9 and Table G2 in the appendix). In principle, this result allows for two alternative explanations: One possibility is that the sudden shift in self-perceptions after the end of the sojourn represents a sudden realization of gradual value changes abroad, that were previously masked by a parallel shift in personal standards (see above). Another possibility is that they represent a pure shift in personal standards (despite unchanged latent characteristic levels) as soon as exclusive self-comparison with sedentary peers is re-established. While only the first explanation could account for the apparent lack of effects for the Big Five by assuming a relatively greater resistance to change compared to personal values, the terminal conclusion ultimately depends on the efficiency of the procedure used to eliminate possible reference group shifts.[76]

Whatever the case, however, the mere observation of such sudden changes in sojourner perceptions once again proves that the cultural context, and the relative standards set by this context, evidently matter a lot for the results of any type of subjective self-rating. Both future studies and any re-evaluations of previous

[76] Observer ratings (e.g. by origin country peers) appear as an obvious solution. However, the practicability of this approach is limited by their unavailability throughout the sojourn, and the possibility of a contamination of their validity by general or country-specific preconceptions about how a stay overseas affects personality and values (e.g., “traveling broadens the intellectual horizon” or “he stayed in Japan, so he must have learned to be polite”).

cross-cultural research are well-advised to take this important message into account.

Acculturation and its Relation to Sojourner Health and Life Satisfaction

As expected, the degree of host culture orientation (AK) attained by participants throughout their sojourn had a much larger impact on general health (GHQ) and life satisfaction (SWLS) than their detachment from the traditions, customs, and social contacts in their respective origin countries (HK; see Table 10). Evidently it is more crucial for sojourners to come to associate with the way of life in their new social environment, than to burn the bridges behind them; especially since the ultimately limited nature of their stay abroad would not warrant such drastic measures anyway. The fact that this pattern of relations remained robust across all participant groups (see Table 11) distinguishes it as one of the few mechanisms of sojourner acculturation where true universality can still be assumed.

However, it cannot be denied that origin culture detachment *also* predicted a significant proportion of variance in the GHQ. As additional analyses had also revealed a consistent positive correlation between the two subscales of the FRAKK, neither Berry's relatively radical assumption of complete factorial independence, nor his assumption of the general, unconditional superiority of an integrative approach to acculturation could be confirmed in the present study, at least not for the specific operationalization of host culture orientation and origin culture detachment in the FRAKK, and the specific sojourner samples examined. Apparently, the "best" acculturation strategy also depends on a number of circumstantial factors. In cases where social support by a local community of origin country peers is not available, or in cases where the limited time spent abroad simply does not allow for establishing contact with that community, a strong degree of mental detachment from home culture customs and mindsets may prove beneficial for a quick mastery of basic adjustments tasks, and in turn minimize the duration of their negative impact on health and well-being.

Development of Acculturation, Health, and Life Satisfaction Before, During, and After the Sojourn

Limited evidence for general time-dependency. Considering the vast amount of literature on the culture shock phenomenon, it was somewhat surprising to witness that participants overall showed no signs of a general disturbance in psychosomatic health or life satisfaction during the first days abroad. Since no such reaction was observed during the month following their return home either, it seems that at least the sojourner groups represented in this study experienced neither a culture shock, nor a reverse culture shock. A likely explanation is that (voluntary) sojourners generally are better prepared for what awaits them in their host countries of choice than other migrant groups, while at the same time their relative short visit abroad is insufficient to completely estrange them from origin culture customs.

Parameter estimates for the development of acculturation throughout the sojourn once more justified a distinction between host culture orientation (AK) and origin culture detachment (HK) in the FRAKK. As expected, the integration of host culture customs and relations in the personal repertoire successively increased with every month spent abroad. However, the magnitude of this effect was comparatively limited considering the standard deviation of the outcome variable[77] and the fact that parameters β_{10} in Table 12 estimated changes after one full year spent in the host country. Also, none of the sojourner groups showed signs for a devaluation of their origin culture roots; as already mentioned above, the ultimately limited nature of their stay abroad arguably made fundamental detachment both unnecessary and impractical.

In sum, the mere number of months spent abroad explained surprisingly little variance in acculturation self-ratings. While it is possible that some items of the FRAKK (which was originally designed for use with permanent immigrants) possibly lacked the sensitivity to detect subtle developments in the sojourner context,[78] this explanation certainly does not apply to all of them. It seems that acculturation degree

[77] Mean standard deviations across measurement occasions for the overall sample: $SD_{AK} = 8.74$; $SD_{HK} = 8.60$; $SD_{AI} = 15.81$; $SD_{SI} = .41$; $SD_{GHQ} = 2.97$; $SD_{SWLS} = 1.17$. Standard deviations within each national group never were more than 25% smaller

[78] For example, one of the questions asked whether participants could imagine returning to live in their respective home countries, or whether they used home country media (including the internet). Naturally, agreement was very high throughout all measurements occasions.

depends much more on individual and group-level differences than on time alone; while some sojourners may relish the opportunity to expand their horizon, others may regress to reactive affirmation of their origin culture ties, in turn limiting the magnitude of overall trends.

A positive message of the present study is that regardless of the mixed result for acculturation degree, the subjective perception of acculturation difficulties (SI) significantly decreased throughout the sojourn, and life satisfaction increased; a similarly positive trend for psychosomatic health (GHQ) failed to reach significance. The absence of associated quadratic trends also led to a rebuttal of the classic U-Curve Hypothesis of psychological acculturation in the present context. It is well possible that this theory may apply to other, less privileged migrant groups, specific host/home country constellations, or other outcome variables; it clearly did not apply to the present sojourner samples.

Differences between national groups. The non-significance of results for culture shock and reverse culture shock in the overall sample actually hid a country-specific trend for general health. While Japanese and US participants showed signs for a classic pattern of increased psychosomatic difficulties immediately after arrival in the host country, the number and intensity of symptoms actually *decreased* for Germans. This may indicate that depending on their cultural background, different sojourner groups react to the same objective constellation in a different manner: while Germans seem to worry a lot during the preparatory stage (and to be relatively relieved later), their Japanese and American counterparts may be comparatively disturbed by the discovery that life abroad is actually more difficult than they expected.[79] Still, neither group showed signs for a decrease in life satisfaction during the first month abroad; and indicators for reverse culture shock were completely absent. Evidently, not every cultural transition is automatically associated with a state of shock and distress.

Concerning the possibility of group-specific developments in acculturation, health, life satisfaction, and perceived difficulties throughout the sojourn, the non-significance of results does not allow for a final conclusion. After a second look at the estimates for parameters β_{10}, β_{11}, and β_{12} in Table 13, however, it is hard to resist the impression that trends discovered for the overall sample may apply to some

[79] It could also indicate that some host cultures are more stressing than others; see the respective section on study limitations.

national groups more than to others (especially those for origin culture detachment, HK, and life satisfaction, SWLS). Despite its value as a cautious reminder that acculturation may be less homogeneous and universal than often assumed, however, this impression clearly warrants future confirmation.

Influence of sojourner characteristics. Participant personality and personal values overall had very little effect on the development of life satisfaction and health during the transition from home to host country. While the trend for participants high in power orientation to suffer relatively more psychosomatic symptoms during the pre-sojourn phase of uncertainty than after arrival abroad is interesting, the large number of statistical tests does not allow to dismiss the possibility of a chance association; whatever the case, in light of its size,[80] the practical implications are limited. While the same could be said about the effects of personality and personal values on the development of health and life satisfaction during the transition back home, these results show an interesting pattern that warrants special mentioning: in most cases, the relative benefits and difficulties conferred by certain personality traits and values while still abroad tended to quickly dissolve thereafter (inverse sign of parameter estimates β_{01} and β_{11} in Table 19). This can be taken as evidence that at least some of the effects of participant personality and value endorsement levels are truly specific for the sojourn context, and not simply the result of general associations with health/life satisfaction that can also be observed in sedentary samples (see below).

Concerning developments during the sojourn itself, low levels of neuroticism, high extraversion, agreeableness, conscientiousness (and in some cases: openness), were mostly associated with high initial levels of life satisfaction (SWLS), host culture orientation (AK), origin culture detachment (HK), and low acculturation difficulty (SI); only neuroticism significantly predicted the number of psychosomatic symptoms (see Table 12, parameter estimates β_{01}). [81] While this is largely in line with the

[80] Parameter β_{11} in Table 16 estimates the change in outcome variable scores associated with personality or values levels one full standard deviation above the origin country mean. Relative to the magnitude of the standard deviation of the GHQ scale (see footnote 78), the associated changes appear to be small.

[81] Considering the average standard deviations of each outcome variable, associations for the FRAKK indices were considerably smaller than those for the difficulty index (SI), general health (GHQ) and life satisfaction (SWLS). Technically, the percentage of between-subjects intercept variance explained by a level-2 predictor ΔP can be calculated by comparing the estimates for

findings of previous studies (e.g. Ward, Leong, & Low, 2004), it is important to remember that these associations are only correlational. As such, they may simply reflect a general positivity bias: participants rating themselves high on socially desirable personality traits do the same for indicators of acculturation success.[82] Consequently, results concerning the associations between personality traits and change slope parameters (β_{11}) are of far greater informative value, as they are hardly influenced by such a bias. However, these associations were both limited and highly inconsistent. Only pre-sojourn openness showed a significant negative relation to developments in more than a single outcome variable (host culture orientation and satisfaction with life), which, considering the operationalization of this factor in the BFI, may indicate that in the long run, a rather down-to-earth and pragmatic approach to life abroad may prove slightly more beneficial than philosophical contemplations. In sum, the alleged key role of the Big Five for the development of acculturation, health, and life satisfaction throughout the sojourn reported by previous, mostly correlational studies could not be confirmed, while stronger associations with initial outcome variable scores at its beginning were identified as a possible measurement artifact.[83]

The pattern of effects for personal values was considerably more consistent and easier to interpret, because the within-person ipsatization of subscale results in the PVQ allowed to rule out any sort of general positivity bias (see method section). Overall, only a small subset of personal values (tradition, stimulation, and self-direction) was consistently related to acculturation degree as measured by the FRAKK indices. While traditionalists had a harder start that provided ample room for improvement later, the sequence was inversed for sojourners focusing on exceptional

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$var(r_0)$ in the models with and without the predictor according to the formula $[var(r0)_{without\ \Delta P} - var(r0)_{with\ \Delta P}]/var(r0)_{without\ \Delta P}$. For example, pre-sojourn personality differences never accounted for more than 6% of the between-subjects variance in initial AK, HK, and AI scores at the beginning of the sojourn.

[82] E.g., for life satisfaction (SWLS), similar associations with the Big Five were found for the general sedentary population (Hayes & Joseph, 2003; Schimmack, Oishi, Furr, & Funder, 2004).

[83] It is entirely possible that the overall analysis across sojourner groups masked subgroup-specific trends for the level-2 predictors (personality characteristics and cultural distance). Unfortunately, the small number of groups precluded inclusion of host/origin country combinations as a third level into the HLM model (see Nezlek, 2008 and Nezlek et al., 2008 for a discussion of the issue), while the small number of cases in certain subsamples prevented separate analyses.

experiences (stimulation) and independence (self-direction). It seems that a strong orientation towards the new and unusual in combination with a pronounced desire for independence may be a good starting point for an overseas adventure; but it can also make it hard to pass a certain threshold, as ultimately, true acculturation encompasses subordination to the societal rules, norms, and limitations of the host country. Since similar negative long-term effects were also confirmed for the development of general health and life satisfaction, the generally high degree of self-direction and stimulation orientation among sojourners reported in a previous section seems to be a double-edged sword. On the one hand, it allows them to get a head start in acculturation; on the other, it means that they may struggle comparatively more to "fit in" later on. On a more abstract level, this result illustrates that the adaptive value of the same personality characteristic may actually change throughout the acculturation process, further complicating concrete predictions.

Influence of cultural distance. Larger sojourner-rated differences between the average Big Five personality trait and value endorsement levels of home and host culture inhabitants was associated with a larger drop in health at the beginning of the sojourn, indicating a relatively larger amount of psychosomatic disturbance. Interestingly, the opposite was true for the immediate post-sojourn phase: here, general health and life satisfaction increased comparatively more for participants who had recently returned from a country where the predominant values were in strong conflict with those endorsed by their home country peers. While the pattern of significances was not completely consistent, the most likely explanation is that both the initial challenge of adaption, as well as the feeling of relief after the return home increased in proportion to the width of the cultural gap a sojourner had to bridge.

This interpretation is further corroborated by the negative association between cultural distance in both personality traits and value endorsements and the initial levels of overall acculturation (AI, parameter β_{01} in Table 12; significances split across the sub-indices for host culture orientation, AK, and origin culture detachment, HK). While the lack of predictive power for subsequent changes (parameter β_{01}) may seem surprising at first, one has to consider that starting out low (due to a relatively larger cultural distance) logically implies increased opportunities to improve later on, even though the task of acculturation itself may actually be comparatively more taxing to a sojourner's personal resources. Preliminary support for this viewpoint is provided by

the pattern of associations for the development of life satisfaction: here, greater estimated value differences between host and origin countries not only severely impacted self-ratings at the beginning of the sojourn, but also predicted a comparatively *less* favorable development later on. However, because the failure of parameter estimates associated with changes in health (GHQ) and perceived difficulties (SI) did not reach statistical significance (despite almost identical patterns), this explanation remains tentative.

In sum, the association between cultural distance and several indicators for acculturation success was generally in line with previous research (Babiker, Cox, & Miller, 1980; Furnham & Bochner, 1982; Parker & McEvoy, 1993; Searle & Ward, 1990; Suanet & Van De Vijver, 2009; Ward & Kennedy, 1993), especially with regard to outcome variable intercepts. Mixed results for the influence on developments throughout the sojourn could be explained by inherent differences between the outcome variables.

Problems and Limitations

It is an unfortunate fact that decisions concerning the relative focus of a project have to be made during a relative early stage of conceptual planning. In hindsight, one of the most unfortunate limitations of this study result from a compromise that made it technically impossible to examine the association between the degree of fit between sojourner and host culture characteristics and acculturation success.[84] Therefore it is not clear whether the detrimental effects of personality and value differences between host and origin countries observed at the group level are not just a pale echo[85] of much stronger associations at the individual level.

Practical limitations also prevented a parallel examination of home- and host-country specific trends.[86] As Berry (Berry et al., 1989) wisely points out, acculturation is a process that involves both migrants and their hosts; and usually it is the latter who determine the available options. In this regard, my decision to selectively focus on differences between national groups (which seemed to be the more conventional perspective) may appear incomplete.

A comprehensive evaluation should also take into consideration that several of the trends observed most definitely are limited to highly educated temporary sojourners voluntarily travelling between countries of similar economic power, political systems,

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[84] The main problem was that the country comparison versions of the BFI and the PVQ used a different scale format than the corresponding self-rating versions. In consequence, the degree of absolute agreement between subscale specific deviances of a sojourner from the home country mean and the associated differences between host and origin countries could not be estimated. The logical alternative would have been to ask sojourners to directly rate home and host culture members on separate scales (both using the same scale format of the self-rating versions), and use the difference between both ratings as an indicator for estimated cultural differences between both countries. This option was strongly considered, but ultimately waived since it would have implied that some sojourners would have to answer the basically same 84 (44 BFI items and 40 PVQ items) questions up to three times during a single measurement occasion.

[85] The relatively weak group-level effect of cultural distance could be a mere by-product of the fact that a fit between sojourner and host culture characteristics becomes progressively more unlikely with increasing differences between host and origin countries, because this fit would necessitate a progressively more extreme individual deviation from the origin culture norm.

[86] The hierarchical regression analysis used in this study did not allow for a convenient treatment of the special constellation of logical dependencies between host- and origin-country specific effects (e.g., it was not possible to conveniently interpret the level-2 dummy variables needed to account for the fact that a sojourner's nationality also determined the selection of possible host countries).

and (at least on paper) societal rules. As such, the discovery of a strong tendency to search out host cultures "fitting" their own preferences is likely to apply considerably less to other, less privileged migrant groups. On the other hand, the pressure to acculturate was arguably smaller, as most participants could consider their sojourn a mere interlude with limited long-term consequences. Consequently, it is likely that many did not feel compelled to fundamentally change their convictions and behavioral patterns beyond the minimum required by their immediate social environment abroad.

Finally, some of the results for the overall sample may show a certain imbalance due to a numerical overrepresentation of participants from Germany. This imbalance could only partially be eliminated by statistical weighting, since the weighting algorithms provided by HLM were clearly not designed for longitudinal datasets with missing data.[87] In this regard, the clear differences between parameter estimates for each national sample which were observed during some analyses must be considered a most insistent warning against overgeneralizations. Sojourner acculturation is an inherently complex process that strongly depends on specific characteristics of the populations under observation. As a logical consequence, the complex dependencies between personality, personal values, and acculturation discovered in this dissertation definitely require separate confirmation in subsequent studies.

[87] The problem was that HLM provides only for a global weighting across all measurement occasions. However, in longitudinal datasets with missing data, this will actually lead to additional distortions which grow in magnitude according to the degree of fluctuation in relative case numbers for each national group across measurement occasions.

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Appendix A

German, Japanese, and English Sample Instructions and Items for the Self-Rating Version of the BFI as Used in the Study

German

Sie und andere Deutsche

Wir beginnen mit ein paar Fragen dazu, wie Sie sich selbst im Alltag erleben. Bitte antworten sie spontan und ehrlich, und vergleichen Sie sich dabei bitte jeweils mit gleichaltrigen Deutschen in Deutschland. Nachdem Sie alle Fragen beantwortet haben, gelangen Sie mit einem Klick auf "weiter" auf die nächste Seite.

Im Vergleich zu anderen Deutschen meines Alters sehe ich mich selbst als jemand der:

(markieren Sie einfach neben jeder Frage den entsprechenden Kreis)

	trifft überhaupt nicht zu	trifft wenig zu	teils/teils	trifft gut zu	trifft sehr gut zu
gesprächig ist, sich gerne unterhält	○	○	○	○	○
dazu neigt, andere zu kritisieren	○	○	○	○	○
Aufgaben gründlich erledigt	○	○	○	○	○
deprimiert, niedergeschlagen ist	○	○	○	○	○
originell ist, neue Ideen entwickelt	○	○	○	○	○
eher zurückhaltend und reserviert ist	○	○	○	○	○
hilfsbereit und selbstlos gegenüber anderen ist	○	○	○	○	○
etwas achtlos sein kann	○	○	○	○	○
entspannt ist, sich durch Stress nicht aus der Ruhe bringen lässt	○	○	○	○	○
vielseitig interessiert ist	○	○	○	○	○
voller Energie und Tatendrang ist	○	○	○	○	○

Japanese

私と日本人

最初は「日常的な自分」についての質問です。自分の事を日本に住んでいる同年齢の日本人と比べながら、余り迷わず正直に答えて下さい。全ての項目に答えて頂いたその後、ページの一番下の「次へ」をクリックして下さい。

同年齢の日本人同士と比べて、私は自分という人間を次の様に思っています:

(マウスで質問ごとに印を付けて下さい)

	全くそう思わない	あまりそう思わない	どちらでもない	ややそう思う	強くそう思う
話し好きである	○	○	○	○	○
他人のあら捜しをよくする	○	○	○	○	○
几帳面である	○	○	○	○	○
気が滅入る、憂鬱	○	○	○	○	○
独創的、新しい考えが良く浮かぶ	○	○	○	○	○
控えめである	○	○	○	○	○
親切で、人のことを考える	○	○	○	○	○
不注意なところがある	○	○	○	○	○
リラックスしていて、ストレスの対処がうまい	○	○	○	○	○
様々なことに好奇心を持つ	○	○	○	○	○
気力がみなぎっている	○	○	○	○	○

English

Me and other Americans

We'll begin with a few questions on how you find yourself in everyday situations. Please answer spontaneous and straightforward, and compare yourself to other Americans your age living in the US. After answering all the questions, please click on "next" below to proceed to the next page.

Compared with other Americans my age,
I see myself as someone who:
(please check the appropriate circles to the right of each question)

	disagree strongly	disagree a little	neither agree nor disagree	agree a little	agree strongly
Is talkative	○	○	○	○	○
Tends to find fault with others	○	○	○	○	○
Does a thorough job	○	○	○	○	○
Is depressed, blue	○	○	○	○	○
Is original, comes up with new ideas	○	○	○	○	○
Is reserved	○	○	○	○	○
Is helpful and unselfish with others	○	○	○	○	○
Can be somewhat careless	○	○	○	○	○
Is relaxed, handles stress well	○	○	○	○	○
Is curious about many different things	○	○	○	○	○
Is full of energy	○	○	○	○	○

Appendix B

German, Japanese, and English Sample Instructions and Items for the Country-Comparison Version of the BFI as Used in the Study

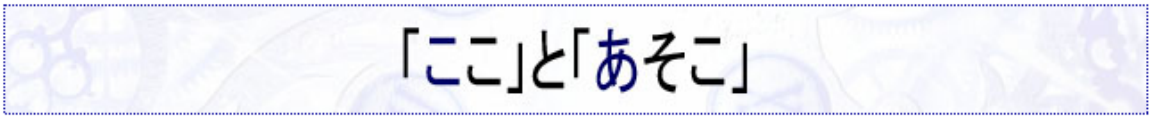
German

Sicher haben Sie sich schon einmal Gedanken über die Bewohner Ihres Reiselandes gemacht. Aber worin unterscheiden sich eigentlich Deutsche und Japaner/Japanerinnen Ihres Alters? Natürlich sollte man dabei nie übergeneralisieren - jeder Mensch ist schließlich je nach Situation anders. Vielleicht lassen sich aber bestimmte Verhaltensweisen in einer Gruppe etwas öfter beobachten als in der anderen. Wenn Sie (so weit wie möglich) von Ihren eigenen Ansichten und/oder Beobachtungen ausgehen, treffen die folgenden Aussagen dann (vermutlich) häufiger auf einen Menschen Ihrer Altersgruppe aus Deutschland oder aus Japan zu?

Auf wen trifft diese Beschreibung wohl mehr zu?
(Tipp: Falls Sie keine Vermutung haben oder etwas auf beide gleich wenig zutrifft -> "beide etwa gleich")

	Japaner viel mehr	*Japaner etwas mehr*	*beide etwa gleich*	*Deutsche etwas mehr*	*Deutsche viel mehr*
sind gesprächig, unterhalten sich gerne	○	○	○	○	○
neigen dazu, andere zu kritisieren	○	○	○	○	○
erledigen Aufgaben gründlich	○	○	○	○	○
sind deprimiert, niedergeschlagen	○	○	○	○	○
sind originell, entwickeln neue Ideen	○	○	○	○	○
sind eher zurückhaltend und reserviert	○	○	○	○	○
sind hilfsbereit und selbstlos gegenüber anderen	○	○	○	○	○
können etwas achtlos sein	○	○	○	○	○
sind entspannt, lassen sich durch Stress nicht aus der Ruhe bringen	○	○	○	○	○
sind vielseitig interessiert	○	○	○	○	○
sind voller Energie und Tatendrang	○	○	○	○	○

Japanese



皆さんは既に滞在先の人々について色々と考えた事があるでしょうか。とすると、自分と同じ年齢のアメリカ人と日本人の違いは何だろうか、という問題が自然に出てくるかも知れません。勿論、1つの国の人々をひとくくりする事は出来ません。どこでも人はそれぞれの場面に応じて違います。それでもあらゆる理由により、2つのグループの間には、とある行動の頻度が異なる場合があるかも知れません？（出来る限り）自分の感覚・観察に基づいて答えると、次の文章が自分と同じ年齢の日本人かアメリカ人、どちらによりよく当てはまるであろうかを考えて下さい。

各文章はどちらによりよく当てはまると思いますか？
（両方同じく当てはまらない場合、又は見当がつかない場合は「両方同じぐらい」を選んで下さい）

	ずっとアメリカ人	少しアメリカ人	両方同じぐらい	少し日本人	ずっと日本人
話し好きである	○	○	○	○	○
他人のあら捜しをよくする	○	○	○	○	○
几帳面である	○	○	○	○	○
気が滅入る、憂鬱	○	○	○	○	○
独創的、新しい考えが良く浮かぶ	○	○	○	○	○
控えめである	○	○	○	○	○
親切で、人のことを考える	○	○	○	○	○
不注意なところがある	○	○	○	○	○
リラックスしていて、ストレスの対処がうまい	○	○	○	○	○
様々なことに好奇心を持つ	○	○	○	○	○
気力がみなぎっている	○	○	○	○	○

English

"Here and over there"

Most likely, you've already thought a fair bit about what the inhabitants of your destination country are like. But how do people your age in Germany and America differ? Of course, it is never wise to over-generalize. After all, depending on the concrete circumstances, every single person is different. Nonetheless, a certain behavior may be a bit more common in one group than in another. Based (as much as possible) on your own views and/or observations, do you think the following statements (likely) apply more often to Germans or Americans your age?

To whom do the following statements likely apply more?
(Hint: If a statement equally applies to neither or you have no idea, just select "both about the same")

	Germans much more	*Germans a bit more*	*both about the same*	*Americans a bit more*	*Americans much more*
Is talkative	○	○	○	○	○
Tends to find fault with others	○	○	○	○	○
Does a thorough job	○	○	○	○	○
Is depressed, blue	○	○	○	○	○
Is original, comes up with new ideas	○	○	○	○	○
Is reserved	○	○	○	○	○
Is helpful and unselfish with others	○	○	○	○	○
Can be somewhat careless	○	○	○	○	○
Is relaxed, handles stress well	○	○	○	○	○
Is curious about many different things	○	○	○	○	○
Is full of energy	○	○	○	○	○

Appendix C

German, Japanese, and English Sample Instructions and Items for the Self-Rating Version of the PVQ as Used in the Study

German

Die letzte Aufgabe vor der Halbzeitpause erfordert ein wenig Konzentration. Im Folgenden finden Sie einige kurze Beschreibungen eines/einer Deutschen, der/die sich mit anderen Deutschen vergleicht. Bitte lesen Sie jede Beschreibung, und überlegen Sie dann, ob Sie sich im Vergleich mit anderen Deutschen Ihrer Altersgruppe auch so beschreiben würden.

Wie sehr ist dieser Mensch wie Sie?

	überhaupt nicht wie ich	*nicht wie ich*	*ein wenig wie ich*	*etwa wie ich*	*wie ich*	*sehr wie ich*
Sich neue Ideen auszudenken und kreativ zu sein ist wichtig für ihn. Er mag es, Dinge auf seine eigene originelle Art und Weise zu tun.	○	○	○	○	○	○
Es ist wichtig für ihn, reich zu sein. Er möchte eine Menge Geld und teure Dinge haben.	○	○	○	○	○	○
Er denkt, dass es wichtig ist jeden Menschen auf der Welt gleich zu behandeln. Er meint, dass jeder im Leben die gleichen Möglichkeiten haben sollte.	○	○	○	○	○	○
Für ihn ist es sehr wichtig, seine Fähigkeiten zu zeigen. Er möchte, dass Menschen bewundern was er tut.	○	○	○	○	○	○
Es ist wichtig für ihn, in einem sicheren Umfeld zu leben. Er vermeidet alles, was seine Sicherheit gefährden könnte.	○	○	○	○	○	○

Japanese

大切なのは・・・

途中休憩の前の最後のアンケートは少し集中力が必要です。下記の文章は、自分の事を日本人同士と比べた、ある日本人についての文章です。もし自分の事を同年齢の日本人同士と比べたら、貴方も自分について同じことが言えるかどうかを考えて下さい。

この人はあなたにどのくらい似ていますか？

	全く似てない	似てない	ほんの少し似ている	なんとなく似ている	似ている	とても似ている
新しいアイデアを考え出したり創造的でいる事が、彼にとって重要です。彼独自のやり方で物事をするのが好きです。	○	○	○	○	○	○
お金持ちになる事が、彼にとって重要です。沢山のお金と高い物を欲しがります。	○	○	○	○	○	○
彼は世界の誰もが平等に扱われる事が、重要だと思っています。全ての人の人生に、平等に機会があるべきだと強く思っています。	○	○	○	○	○	○
能力を示す事が彼にとって、とても重要です。彼は彼のやる事を高く評価してもらいたがります。	○	○	○	○	○	○
安全な環境で暮らす事が、彼にとって重要です。彼の安全が危険にさらされそうなものは全て避けます。	○	○	○	○	○	○

English

What matters in life

The last task before the half-time break requires a little concentration. Following are descriptions of an American, who compares himself/herself with other Americans. Please read each sentence and then decide, if you would describe yourself in a similar manner when comparing yourself to other Americans your age.

How much is the person described like you?

	not at all like me	not like me	a bit like me	about like me	like me	very much like me
Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.	○	○	○	○	○	○
It is important to him to be rich. He wants to have a lot of money and expensive things.	○	○	○	○	○	○
He thinks it is important that every person in the world be treated equally. He wants justice for everybody, even for people he doesn't know.	○	○	○	○	○	○
It's very important to him to show his abilities. He wants people to admire what he does.	○	○	○	○	○	○
It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.	○	○	○	○	○	○

Appendix D

German, Japanese, and English Sample Instructions and Items for the Country-Comparison Version of the PVQ as Used in the Study

German

Die letzten Fragen drehen sich um die Dinge, die die Menschen in Japan und Deutschland als "wichtig" und "wertvoll" in ihrem Leben betrachten. Wenn Sie (so weit wie möglich) von Ihren eigenen Ansichten und/oder Beobachtungen ausgehen, treffen die folgenden Aussagen dann (vermutlich) häufiger auf einen Menschen Ihrer Altersgruppe aus Deutschland oder aus Japan zu?

Auf wen trifft diese Beschreibung wohl mehr zu?
(Tipp: Falls Sie keine Vermutung haben oder etwas auf beide gleich wenig zutrifft -> "beide etwa gleich")

	Japaner viel mehr	*Japaner etwas mehr*	*beide etwa gleich*	*Deutsche etwas mehr*	*Deutsche viel mehr*
Sich neue Ideen auszudenken und kreativ zu sein ist wichtig für ihn. Er mag es, Dinge auf seine eigene originelle Art und Weise zu tun.	○	○	○	○	○
Es ist wichtig für ihn, reich zu sein. Er möchte eine Menge Geld und teure Dinge haben.	○	○	○	○	○
Er denkt, dass es wichtig ist jeden Menschen auf der Welt gleich zu behandeln. Er meint, dass jeder im Leben die gleichen Möglichkeiten haben sollte.	○	○	○	○	○
Für ihn ist es sehr wichtig, seine Fähigkeiten zu zeigen. Er möchte, dass Menschen bewundern was er tut.	○	○	○	○	○
Es ist wichtig für ihn, in einem sicheren Umfeld zu leben. Er vermeidet alles, was seine Sicherheit gefährden könnte.	○	○	○	○	○

Japanese

最後の質問は、日本とアメリカの人々が自分の人生で、「大切」又は「重要」に思っている事についてです。(出来る限り)自分の感覚・観察に基づいて答えると、次の文章が自分と同じ年齢の日本人かアメリカ人、どちらによりよく当てはまるであろうかを考えて下さい。

各文章はどちらによりよく当てはまると思いますか？
(両方同じく当てはまらない場合、又は見当がつかない場合は「両方同じぐらい」を選んで下さい)

	ずっとアメリカ人	少しアメリカ人	両方同じぐらい	少し日本人	ずっと日本人
新しいアイデアを考え出したり創造的でいる事 が、彼にとって重要です。彼独自のやり方で物事をするのが好きです。	○	○	○	○	○
お金持ちになる事が、彼にとって重要です。沢山のお金と高い物を欲しがります。	○	○	○	○	○
彼は世界の誰もが平等に扱われる事が、重要だと思っています。全ての人の人生に、平等に機会があるべきだと強く思っています。	○	○	○	○	○
能力を示す事が彼にとって、とても重要です。彼は彼のやる事を高く評価してもらいたがります。	○	○	○	○	○
安全な環境で暮らす事が、彼にとって重要です。彼の安全が危険にさらされそうなものは全て避けます。	○	○	○	○	○

English

Double Standards

The final questions are about what people in Germany and the US consider "important" in their lives and what they tend to value most. Based (as much as possible) on your own views and/or observations, do you think the following statements (likely) apply more often to Germans or Americans your age?

To whom do the following statements likely apply more?
(Hint: If a statement equally applies to neither or you have no idea, just select "both about the same")

	Germans much more	*Germans a bit more*	*both about the same*	*Americans a bit more*	*Americans much more*
Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.	○	○	○	○	○
It is important to him to be rich. He wants to have a lot of money and expensive things.	○	○	○	○	○
He thinks it is important that every person in the world be treated equally. He wants justice for everybody, even for people he doesn't know.	○	○	○	○	○
It's very important to him to show his abilities. He wants people to admire what he does.	○	○	○	○	○
It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.	○	○	○	○	○

Appendix E

German, Japanese, and English Sample Instructions and Items for the FRAKK as Used in the Study

German

...an besonderen Orten!

Wie gut treffen die folgenden Aussagen auf Ihre momentane Situation zu?

	absolut falsch	falsch	eher falsch	teils/teils	eher richtig	richtig	absolut richtig
Ich benutze die japanischen Massenmedien (Tageszeitungen, Zeitschriften, TV etc.).	○	○	○	○	○	○	○
In meiner Freizeit spreche ich Deutsch.	○	○	○	○	○	○	○
Ich lebe stark nach deutschen Traditionen.	○	○	○	○	○	○	○
Ich fühle mich angenommen von meinen japanischen Mitmenschen.	○	○	○	○	○	○	○
Meine Freunde kommen zum größten Teil aus Deutschland.	○	○	○	○	○	○	○
Ich fühle mich fremd in Japan.	○	○	○	○	○	○	○
Wenn ich Probleme habe, spreche ich mit anderen Deutschen darüber.	○	○	○	○	○	○	○
Ich fühle mich von der japanischen Gesellschaft akzeptiert.	○	○	○	○	○	○	○
Mit deutschen Traditionen und Sitten kann ich nichts anfangen.	○	○	○	○	○	○	○
Ich fühle mich von Japanern in vielen Dingen nicht verstanden.	○	○	○	○	○	○	○

Wie gut treffen die folgenden Aussagen auf Ihre momentane Situation zu?

	absolut falsch	falsch	eher falsch	teils/teils	eher richtig	richtig	absolut richtig
Es belastet mich, in der japanischen Gesellschaft zu leben.	○	○	○	○	○	○	○
Japanische Traditionen und Sitten gehören nun auch zu meinem Leben.	○	○	○	○	○	○	○
Ich möchte mein Leben in Japan verbringen.	○	○	○	○	○	○	○
Privat unternehme ich lieber etwas mit anderen Deutschen.	○	○	○	○	○	○	○
Ich spreche lieber Japanisch als Deutsch.	○	○	○	○	○	○	○
Ich verfolge das Ziel, die japanische Sprache so gut wie möglich zu beherrschen.	○	○	○	○	○	○	○
Ich kann mir ein zukünftiges Leben in Deutschland gut vorstellen.	○	○	○	○	○	○	○
Ich fühle mich eher japanisch.	○	○	○	○	○	○	○
Ich betrachte mich als Gast in Japan.	○	○	○	○	○	○	○
Ich mache Gebrauch von deutschen Massenmedien (TV, Tageszeitung, Zeitschriften etc.).	○	○	○	○	○	○	○

Japanese

海外生活

次の質問は貴方の現在の生活にどの位当てはまりますか？

	全部当らない	当らない	ちょっと当らない	どちらでもない	やや当たる	当たる	とても良く当たる
アメリカのメディアを利用する（テレビ、新聞、雑誌など）	○	○	○	○	○	○	○
プライベートの時間には日本語を話す	○	○	○	○	○	○	○
日本の伝統に強く基づいて生活している	○	○	○	○	○	○	○
周りのアメリカ人に受け入れられていると感じる	○	○	○	○	○	○	○
友達はだいたい日本の人である	○	○	○	○	○	○	○
アメリカでは自分をよそ者だと感じる	○	○	○	○	○	○	○
もし問題を抱えた時は、その問題について日本人と話す	○	○	○	○	○	○	○
アメリカ社会に受け入れられていると感じる	○	○	○	○	○	○	○
日本の伝統や作法とは無縁である	○	○	○	○	○	○	○
たくさんの事柄において、アメリカ人に理解されていないと感じる	○	○	○	○	○	○	○

次の質問は貴方の現在の生活にどの位当てはまりますか？

	全部当らない	当らない	ちょっと当らない	どちらでもない	やや当たる	当たる	とても良く当たる
アメリカ社会で生活することは重荷である	○	○	○	○	○	○	○
アメリカの伝統・作法も自分の人生に含まれている	○	○	○	○	○	○	○
一生アメリカで過ごしたい	○	○	○	○	○	○	○
できればプライベートの時間は日本の人と過ごします	○	○	○	○	○	○	○
日本語より英語を話したい	○	○	○	○	○	○	○
できるだけ良く英語をマスターする事を目指している	○	○	○	○	○	○	○
将来の母国での人生をよく想像できる	○	○	○	○	○	○	○
自分をよりアメリカ人のように感じる	○	○	○	○	○	○	○
アメリカでは自分を客人のように感じる	○	○	○	○	○	○	○
日本のメディアを利用する（テレビ、新聞、雑誌など）	○	○	○	○	○	○	○

English

Experiences

How well do the following statements describe your current situation?

	absolutely wrong	wrong	somewhat wrong	a bit of both	somewhat right	right	absolutely right
I use the German mass-media (TV, newspapers, magazines, etc.).	○	○	○	○	○	○	○
In my free time, I speak English.	○	○	○	○	○	○	○
I generally live according to American traditions.	○	○	○	○	○	○	○
I feel accepted by my German fellows.	○	○	○	○	○	○	○
My friends are mostly from America.	○	○	○	○	○	○	○
I feel foreign in Germany.	○	○	○	○	○	○	○
When I have a problem, I discuss it with other Americans.	○	○	○	○	○	○	○
I feel accepted by German society.	○	○	○	○	○	○	○
I cannot relate to American traditions and customs.	○	○	○	○	○	○	○
I feel misunderstood by German people in many ways.	○	○	○	○	○	○	○

How well do the following statements describe your current situation?

	absolutely wrong	wrong	somewhat wrong	a bit of both	somewhat right	right	absolutely right
Living in German society is a burden for me.	○	○	○	○	○	○	○
German traditions and customs are now also a part of my life.	○	○	○	○	○	○	○
I want to spend my life in Germany.	○	○	○	○	○	○	○
I prefer to spend my leisure time with people from America.	○	○	○	○	○	○	○
I prefer speaking German to speaking English.	○	○	○	○	○	○	○
I intend to learn German as well as possible.	○	○	○	○	○	○	○
I can imagine my future life in America well.	○	○	○	○	○	○	○
I consider myself to be rather German.	○	○	○	○	○	○	○
I regard myself as a visitor to Germany.	○	○	○	○	○	○	○
I use the American mass-media (TV, newspapers, magazines, etc.).	○	○	○	○	○	○	○

Appendix F

German, Japanese, and English Sample Instructions and Items for the Index of Subjective Acculturation Difficulty Perception (SI)

German

Wie groß sind die Schwierigkeiten, mit denen Sie momentan in den folgenden Bereichen zu kämpfen haben?

	keine	*geringe*	*spürbare*	*beträchtliche*
Geld	○	○	○	○
Heimweh	○	○	○	○
Japanische Essgewohnheiten	○	○	○	○
Freizeitgestaltung / Langeweile	○	○	○	○
Unbefriedigende Wohnsituation	○	○	○	○
Sprach- und Verständnisprobleme	○	○	○	○
Einsamkeit / Suche nach Gesellschaft	○	○	○	○
Unverständliches Verhalten von Japanern / Japanerinnen	○	○	○	○
Ärger mit lokalen Regeln und Institutionen	○	○	○	○
Akademische oder berufliche Anforderungen	○	○	○	○
Voruteile gegen meine nationale oder ethnische Gruppe	○	○	○	○
Alles in allem	○	○	○	○

Japanese

海外での難点

現在のアメリカ生活を考えると、以下のことに関してどの位の問題を感じていますか？

	全然	少し	かなり	とても
お金	○	○	○	○
ホームシック	○	○	○	○
アメリカの食べ物	○	○	○	○
退屈な事	○	○	○	○
住まいの不適切さ	○	○	○	○
言語の理解・使い方	○	○	○	○
寂しさ	○	○	○	○
アメリカ人の理解できない行動	○	○	○	○
地元のルールと組織等	○	○	○	○
学問や会社の要求	○	○	○	○
私の国民・人種に対する偏見	○	○	○	○
総合的な問題	○	○	○	○

English

Daily hassles

What degree of difficulty are you experiencing at the moment in each of the following areas?

	none	minor	noticeable	considerable
Money	○	○	○	○
Homesickness	○	○	○	○
German food and eating habits	○	○	○	○
Recreation / boredom	○	○	○	○
Dissatisfactory housing situation	○	○	○	○
Speaking and understanding German	○	○	○	○
Loneliness / search for company	○	○	○	○
Incomprehensible behavior of Germans	○	○	○	○
Trouble with local rules and institutions	○	○	○	○
Academic or job-related demands	○	○	○	○
Prejudices against my national or ethnic group	○	○	○	○
Overall	○	○	○	○

Appendix G

Supplementary Tables

Table G1

Age, Gender Distribution, and Mean BFI and PVQ Self-rating Scores of Sedentary Comparison Samples in Germany, Japan and the US

	Comparison samples for the BFI					
	Germans (N = 1522, 61%♀)[a]		Japanese (N = 66, 65%♀)[ab]		US Americans (N = 11090)[c]	
Scale	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age	23.48	2.87	21,72	1.77	21.45	.51
E	3.33	.86	3.16	.93	3.26	.90
A	3.39	.62	3.14	.79	3.64	.72
C	3.20	.67	2.86	.73	3.50	.73
N	3.16	.82	3.53	.77	3.32	.82
O	3.90	.63	3.20	.74	3.93	.66

	Comparison samples for the PVQ					
	Germans (N = 47, 59%♀)[ab]		Japanese (N = 88, 65%♀)[ab]		US Americans (N = 87, 68%♀)[ad]	
Scale	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age	22.28	1.75	22.15	1.27	21.41	1.95
Co	-.30	.65	.01	.74	-.45	.95
Tr	-1.09	.77	-1.03	.66	-.84	.89
Be	.78	.55	.38	.77	.56	.69
Un	.50	.73	.10	.58	.28	.70
Sd	.62	.46	.27	.67	.68	.67
St	-.24	.78	-.37	.90	-.03	.86
He	.58	.75	.71	.84	.22	.85
Ac	-.35	.73	.48	.89	.19	.86
Po	-1.12	1.03	-.71	.95	-.73	.90
Sc	.13	.65	.01	.64	-.12	.66

Notes. Scale abbreviations see Table 2; [a]Case numbers after listwise deletion of missing data; [b]percentage of females after weighting of cases; [c]percentage of females in the US sample for the BFI unknown; [d]ethnicities weighted to mirror the ethnic composition of the general US student population.

Table G2

Prediction of Personality and Value Endorsement Development by Grand Mean Centered Host/Origin Culture Differences

Scale	L2 Predictor	β_{00}	SE	β_{10}	SE	β_{20}	SE	β_{30}	SE	β_{01}	SE	β_{11}	SE	β_{21}	SE	β_{31}	SE
E	$\Delta C_{E(gmc)}$	-.04	.04	.05*	.03	.15**	.06	.05	.04	.20***	.05	.06*	.03	.02	.07	.03	.04
A	$\Delta C_{A(gmc)}$	.24***	.04	.06	.04	.03	.06	.02	.04	.06	.10	-.05	.09	.03	.06	.04	.10
C	$\Delta C_{C(gmc)}$	.52***	.04	.06*	.03	.02	.06	.04	.03	-.11	.08	-.08	.06	-.38**	.13	.10	.06
N	$\Delta C_{N(gmc)}$	-.48***	.05	.01	.03	-.09	.07	-.04	.04	-.14	.17	.17	.12	.54*	.24	-.14	.15
O	$\Delta C_{O(gmc)}$	-.22***	.05	.14***	.03	.24***	.06	-.06	.04	.97***	.25	-.04	.18	-.15	.33	.08	.23
Co	$\Delta C_{Co(gmc)}$	.05	.06	-.01	.05	-.20*	.08	-.03	.06	.20**	.07	.05	.06	-.19†	.10	.25**	.08
Tr	$\Delta C_{Tr(gmc)}$	-.09†	.05	-.04	.04	.06	.08	-.11*	.05	.14	.21	-.16	.17	-.37	.33	.29	.23
Be	$\Delta C_{Be(gmc)}$	-.40***	.06	.11*	.05	.08	.08	.05	.06	.26	.31	-.54†	.30	-.14	.35	.27	.33
Un	$\Delta C_{Un(gmc)}$	.03	.05	.04	.04	.09	.07	-.05	.04	.71***	.16	.13	.14	-.59**	.23	.43**	.14
Sd	$\Delta C_{Sd(gmc)}$	.38***	.07	.02	.06	.21*	.10	.00	.07	.01	.12	-.01	.11	-.05	.17	.27*	.13
St	$\Delta C_{St(gmc)}$	.36***	.06	-.04	.05	.02	.09	.00	.05	.10	.10	.00	.09	.03	.14	.02	.08
He	$\Delta C_{He(gmc)}$	-.31***	.06	-.02	.06	-.11	.10	.13*	.06	.05	.11	.19*	.10	-.06	.17	.23*	.11
Ac	$\Delta C_{Ac(gmc)}$	.47***	.06	.06	.05	-.10	.09	.02	.05	1.08***	.18	.02	.13	.17	.29	.21	.15
Po	$\Delta C_{Po(gmc)}$	-.07	.05	.03	.04	.10	.07	.04	.04	1.38***	.26	-.10	.19	-.53	.38	.39†	.22
Sc	$\Delta C_{Sc(gmc)}$	-.41***	.06	-.12**	.05	-.10	.08	.02	.05	-.16	.15	.03	.12	-.44*	.22	.22	.15

Notes. Scale abbreviations see Table 2; $\Delta C_{X(gmc)}$ = grand mean centered estimated host/origin culture difference in mean population levels of characteristic X; †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Table G3

Prediction of Host Culture Orientation (AK), Origin Culture Detachment (HK), Overall Acculturation (AI), Adjustment Difficulties (SI), Health (GHQ), and Life Satisfaction (SWLS) by Sojourn Time and Host/Origin Culture Differences for the Complete Sample

	AK								HK							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	46.63***	.49	1.23	.86	-	-	-	-	40.04***	.54	.29	.80	-	-	-	-
ΔBFI[a]	46.63***	.49	1.17	.86	2.29	12.88	-18.21	22.86	40.07***	.53	.16	.80	-31.73*	13.58	4.62	20.51
ΔPVQ[a]	46.62***	.48	1.49†	.85	-15.60**	5.64	-16.77†	10.11	40.05***	.54	.16	.81	-4.32	6.37	15.74	10.00

	AI								SI							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	86.64***	.88	1.46	1.40	-	-	-	-	1.87***	.03	-.22***	.05	-	-	-	-
ΔBFI[a]	86.67***	.88	1.25	1.41	-29.48	22.79	-13.69	38.51	1.87***	.03	-.22***	.05	.79	.66	-.34	1.25
ΔPVQ[a]	86.64***	.88	1.61	1.41	-20.28*	10.30	.16	17.56	1.87***	.03	-.23***	.05	-.05	.30	.74	.56

	GHQ								SWLS							
L2 Predictor	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*
-	2.80***	.18	.24	.34	-	-	-	-	5.16***	.07	.05	.12	-	-	-	-
ΔBFI[a]	2.80***	.18	.19	.33	7.00	4.67	-20.32**	6.94	5.16***	.07	.06	.12	-.07	2.02	.95	3.59
ΔPVQ[a]	2.82***	.18	.17	.35	1.73	2.11	3.08	4.05	5.14***	.07	.09	.11	-3.16***	.81	2.27	1.43

Notes. [a]estimates based on weighted average ratings of paired sojourner groups (see Table 2); †$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$.

Table G4

Prediction of Host Culture Orientation (AK), Origin Culture Detachment (HK), Overall Acculturation (AI), Adjustment Difficulties (SI), Health (GHQ), and Life Satisfaction (SWLS) by Sojourn Time Across National Groups for the Complete Sample

	Parameter estimates for Germans (baseline)				Baseline deviation of the Japanese group				Baseline deviation of the US group			
Scale	β_{00}	*SE*	β_{10}	*SE*	β_{01}	*SE*	β_{11}	*SE*	β_{02}	*SE*	β_{12}	*SE*
AK	47.53***	.58	1.32	1.03	-4.03**	1.33	1.70	2.20	-1.34	1.33	-2.88	2.77
HK	41.11***	.68	.93	1.05	.31	1.41	-2.25	1.80	-5.45***	1.25	-2.59	2.23
AI	88.58***	1.10	2.27	1.74	-3.56	2.28	-.93	3.32	-6.77**	2.24	-5.54	4.24
SI	1.85***	.03	-.27***	.06	.02	.07	.16	.12	.10	.07	.13	.14
GHQ	2.60***	.21	.12	.43	1.56**	.52	-.11	.79	-.01	.45	.45	1.02
SWLS	5.33***	.08	.14	.12	-1.03***	.22	-.15	.35	-.16	.17	-.28	.37

Note. $^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Appendix H

The trilingual (German/Japanese/English) invitation used for most of the participant acquisition (artwork changed after the 2011 Great Eastern Japan Earthquake/Tsunami/nuclear disaster).

S.E.A. PROJECT
ベルリン・フンボルト大学院
HUMBOLDT-UNIVERSITY OF BERLIN
HUMBOLDT-UNIVERSITÄT ZU BERLIN

Invitation for Sojourners

US citizens please see page 2.

ご案内

日本の方は3ページをご覧下さい。

Einladung für Auslandsabenteurer

Deutsche Version auf Seite 4.

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Ehrenwörtliche Erklärung

Hiermit versichere ich die vorgelegte Dissertation selbständig und ohne unerlaubte fremde Hilfe angefertigt zu haben. Alle Textstellen, die wörtlich oder sinngemäß aus veröffentlichten Schriften entnommen sind, sind als solche kenntlich gemacht.

Ich habe die dem Promotionsverfahren zu Grunde liegende Promotionsordnung zur Kenntnis genommen und versichere, dass ich mich nicht bereits anderwärts um einen Doktorgrad beworben habe beziehungsweise einen Doktorgrad im Promotionsfach Psychologie besitze.

(Berlin, den 15. Januar 2013) (Tobias M. L. Söldner)